AD-776 387

TERRAIN ANALYSIS FOR THE ARMORED RECONNAISSANCE SCOUT VEHICLE TEST PROGRAM

D. D. Randolph, et al

Army Engineer Waterways Experiment Station
Vicksburg, Mississippi

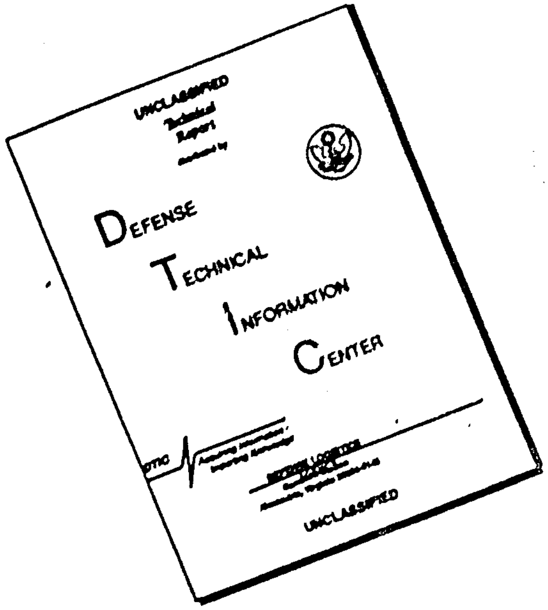
March 1974

DISTRIBUTED BY:

NTIS

National Technical Information Service
U. S. DEPARTMENT OF COMMERCE
5285 Port Royal Road, Springfield Va. 22151

DISCLAIMER NOTICE



THIS DOCUMENT IS BEST QUALITY AVAILABLE. THE COPY FURNISHED TO DTIC CONTAINED A SIGNIFICANT NUMBER OF PAGES WHICH DO NOT REPRODUCE LEGIBLY.

AD 776 387

TERRAIN ANALYSIS FOR THE ARMORED RECONNAISSANCE SCOUT VEHICLE TEST PROGRAM

by

D. D. Randolph, C. A. Blackmon

March 1974

Reproduced by
NATIONAL TECHNICAL
INFORMATION SERVICE
U S Department of Commerce
Springfield VA 22151

Sponsored by

Armored Reconnaissance Scout Vehicle Project Manager

Directed by

U. S. Army Materiel Systems Analysis Agency
Aberdeen Proving Ground, Maryland

Conducted by

U. S. Army Engineer Waterways Experiment Station
CORPS OF ENGINEERS
Vicksburg, Mississippi

and

U. S. Army Tank-Automotive Command
Warren, Michigan

APPROVED FOR PUBLIC RELEASE; DISTRIBUTION UNLIMITED.

FOREWORD

The study reported herein was conducted during the period December 1972-October 1973 by the U. S. Army Engineer Waterways Experiment Station (WES) and the U. S. Army Tank-Automotive Command (TACOM) for the Armored Reconnaissance Scout Vehicle (ARSV), XM800 Project Manager.

This study was conducted under the general supervision of Messrs. W. G. Shockley, Chief, Mobility and Environmental Systems Laboratory (MESL), A. A. Rula, Chief, Mobility Systems Division (MSD), MESL, and C. J. Nuttall, Jr., Chief, Mobility Research and Methodology Branch (MRMB), MSD. The field data at Fort Knox were collected under the supervision of Mr. D. D. Randolph by Messrs. J. H. Robinson, R. P. Smith, and R. H. Johnson, MSD, who also prepared the areal and linear terrain factor complex maps of Fort Knox. The late Mr. C. A. Blackmon, MSD, prepared the revised areal terrain factor complex maps of the West Germany transect and assisted Mr. Randolph with the comparison of the selected Fort Knox and West German areal terrains. Mr. L. A. Martin, Mobility Systems Division, TACOM, and Mr. D. A. Sloss, Stevens Institute of Technology, Hoboken, N. J., assisted with the comparison of selected linear terrains at Fort Knox and West Germany. Acknowledgment is also made to Mr. A. W. Criswell, U. S. Army Materiel Systems Analysis Agency (AMSAA), for his review of this report and spirited criticism. This report was prepared by Messrs. Randolph and Blackmon.

BG Ernest D. Peixotto, CE, and COL G. H. Hilt, CE, were Directors of WES during the conduct of this study and the preparation of this report. Mr. F. R. Brown was Technical Director.

2<

CONTENTS

3<

4<

CONVERSION FACTORS, BRITISH TO METRIC UNITS OF MEASUREMENT

British units of measurement used in this report can be converted to metric units as follows:

Multiply	By	To Obtain
inches	25.4	millimeters
feet	30.48	centimeters
square inches	6.4516	square centimeter
pounds	0.45359237	kilograms
tons (2000 lb)	907.185	kilograms
pounds per square inch	0.070307	kilograms per square centimeter
pounds per cubic inch	276.80	kilograms per cubic centimeter
foot-pounds	0.138255	meter-kilograms
feet per second	30.48	centimeters per second
miles per hour	1.609344	kilometers per hour

SUMMARY

Two study areas (FK1 and FK2), totaling approximately 11 sq miles, were selected at Fort Knox, Kentucky, for comparison with a previously mapped 60-sq-mi sample of terrain in West Germany (WGT) and as potential areas for field tests with the prototype Armored Reconnaissance Scout Vehicles (ARSV's) and comparison vehicles. Areal and linear terrain data from 119 sites, aerial photographs, and other pertinent information were used to prepare the Fort Knox terrain factor complex maps. These areal maps describe the terrain characteristics that affect vehicle performance, i.e. soil type, soil strength, topographic slope, obstacles, vegetation, surface roughness, and visibility. The linear terrain factor complex maps describe the terrain characteristics that determine "go or no-go" vehicle performance, i.e. linear feature geometry, water depth, and water velocity.

The Fort Knox study areas and the West German transect were compared on the basis of general descriptions (land physical characteristics, land use, etc.), areal and linear occupancy and occurrence of terrain units and terrain mobility factors, and parameters (i.e. vehicle speed and performance diagnostics) reflecting the combined effects of the terrain upon the mobility performance of the M114A1E1 armored command and reconnaissance carrier and the M151A2, 1/4-ton truck, as predicted by the AMC-71 mobility model.

The major differences in the areas arise from the land use. Over 70 percent of WGT is used for agricultural purposes, largely croplands, but including orchards, vineyards, and some cultivated forests. A large part of FK1 is used as a buffer zone around an impact area and is therefore idle; most of FK2 is used as a military training area. These differences in land use are reflected in a difference in obstacles, vegetation, surface irregularities, and linear feature characteristics. Terrain units and terrain factor classes can be found in FK1 or FK2 that are similar to many of those in WGT although the areal extent may be different.

The mobility performances of the two selected vehicles predicted by the AMC-71 mobility model show that the Fort Knox study areas are somewhat similar to the West German transect in regard to the overall effect on mobility, with the performance of the M114A1E1 being more similar than that of the M151A2.

6<

The performance diagnostics showed that although the predicted speeds were similar, the controlling factors were often different.

It was concluded that sufficient terrain variations existed in FK1 and FK2 to provide the range of conditions needed for mobility evaluation tests of the ARSV's and that the terrain conditions in Fort Knox and WGT are such that tests in FK1 and FK2 can be used to establish the level of confidence in the AMC-71 mobility model predictions in WGT and subsequent mobility evaluations of the ARSV's.

It is recommended that mobility tests be conducted with the ARSV's and comparable vehicles along selected traverses in FK1 and FK2, that results of these tests be used to validate predictions for these areas made by the AMC-71 mobility model, that mobility evaluations of the ARSV's and comparable vehicles be made in the West German transect with the AMC-71 mobility model, and that final judgments of the relative mobility potential be based upon the results of simulations in light of the validation.

Appendix A presents the procedures used in preparing areal and linear terrain factor complex maps for selected Fort Knox terrains (FK1 and FK2). It includes definitions of terrain terms applicable to mobility and procedures for field data collection. It also includes a discussion o. the revised method used to assign surface roughness to the areal terrain units of the West German transect.

Comparisons of the terrains in the three study areas (FK1, FK2, and WGT) made on the basis of the general descriptions, the areal occupancy and occurrence of terrain units and terrain factors, and the basis of the performance of two vehicles (one each wheeled and tracked) as predicted by the AMC-71 mobility model are presented in detail in Appendix B.

TERRAIN ANALYSIS FOR THE ARMORED RECONNAISSANCE SCOUT VEHICLE TEST PROGRAM

PART I: INTRODUCTION

Background

1. The Armored Reconna'ssance Scout Vehicle (ARSV) Project Manager assigned the U. S Army Tank-Automotive Command (TACOM) Systems Analysis Division the responsibility for the conduct of a cost and performance study of the ARSV. TACOM then tasked the U. S. Army Materiel Systems Analysis Agency (AMSAA) with the responsibility for the performance areas (except reliability and maintenance) of the total cost and performance study.

2. In August 1973, the U. S. Army Engineer Waterways Experiment Station (WES) Mobility Systems Division (MSD) and the Mobility Systems Division, TACOM, were asked to prepare a joint cost, time, and manpower estimate for terrain mapping and analysis, validation testing, and mobility evaluation in support of AMSAA's efforts in the cost and performance study of the ARSV. The task and associated subtasks suggested by AMSAA are given in table 1. Subsequent to the initial request, Task D, "Mobility Effectiveness Evaluation," was added to the ARSV program.

3. A proposal outlining a WES-TACOM work plan was submitted to AMSAA in September 1972. During October 1972, AMSAA representatives visited WES to discuss the proposal with WES-TACOM personnel before preparing a work statement. In November 1972 AMSAA prepared a work statement that included a general work plan covering tasks associated with performance aspects of the study.

4. WES was assigned the primary responsibility for Task A, "Terrain Analysis for the Armored Reconnaissance Scout Vehicle Test Program," in cooperation with TACOM, the U. S. Army Test and Evaluation Command (TECOM), and the U. S. Army Armor and Engineer Board, Fort Knox. The original plan stated that all terrain mapping would be accomplished at selected areas at

8<

Fort Knox, Kentucky, and in West Germany. During a meeting at Fort Knox on 16 and 17 January 1973, Aberdeen Proving Ground (APG) was included as a potential military reservation for terrain mapping. Fort Knox and APG were selected because the ARSV's were scheduled for testing at these installations. West Germany was selected because of its military relevance and because terrain maps containing much of the data to be used in this study were already available for a sample strip (or transect) in West German terrain. The original plan also called for sending a team to West Germany to collect additional ground truth data to complete the available maps of the West German transect. Independent requests by WES and TACOM to visit West Germany were denied; therefore, the original plan was modified to use existing data only. This report describes the work accomplished under Task A only.

Purpose and Approach

Purpose

5. The main purpose of this study was to prepare terrain data, in the form of terrain factor complex unit maps, for selected areas of Fort Knox and/or Aberdeen Proving Ground to be used in the mobility evaluation and testing of the prototype armored reconnaissance scout vehicles (ARSV's) and comparison vehicles in support of the ARSV Cost and Performance (C/P) Study. The terrain maps developed will be used with the AMC-71 mobility model* to predict vehicle mobility performance in terms of speeds and factors controlling speed in both this phase and later phases of the C/P Study. The validity of these predictions will also be examined in these later phases of the C/P Study by actually testing the ARSV prototypes in these mapped terrain areas during developmental testing.

6. The secondary purpose of this study was to make a quantitative comparison of the Fort Knox terrain with the West German terrain. The

---

* U. S. Army Tank-Automotive Command and U. S. Army Engineer Waterways Experiment Station, "The AMC '71 Mobility Model," Technical Report No. 11789 (LL 143), July 1973, U. S. Army Tank-Automotive Command, Warren, Mich.

results of this comparison will be used to judge the applicability of vehicle test results obtained at Fort Knox to the West German transect. It will also indicate the degree to which validation of the AMC mobility model in the Fort Knox terrains will encompass the ranges of terrain characteristics in the West German transect and thus serve as validation of the model's predictions in that environment as well.

Approach

7. The terrain factor maps* for both areal and linear terrain features were developed by field sampling of the selected Fort Knox areas, review of existing terrain data in the form of maps, geologic survey data, and air photos, and application of the techniques currently developed for the generation of factor maps for use with the AMC-71 mobility model. The areal and linear terrain factor maps for the West German transect were prepared in a similar manner except that field sampling data were not available.

8. The terrain comparison methodology included examination of the following parameters or combinations of parameters as a basis for comparing terrains.

General description	Land physical characteristics Land use
Terrain units terrain factors Vehicle speed Terrain factors controlling vehicle speed	As defined in the AMC-71 mobility model

9. Where possible, examination of these parameters considered the areal occupancy and frequency of occurrence as a basis for comparison. In the case of terrain factors, the predominant range of terrain characteristics for each area was examined for its effect on vehicle speed.

---

* See Appendix A for a detailed explanation of the mapping techniques used to develop factor maps.

PART II: STUDY AREAS

U. S. Terrains

Selection

10. WES personnel reconnoitered both Fort Knox, Kentucky, and APG, Maryland, to select areas for terrain mapping and subsequent vehicle testing. The selection was limited to areas that could be mapped by use of the WES terrain descriptive system (Appendix A) within the time frame and funding constraints of the study. Another important constraint was the selection of a minimal number of areas that would provide a sufficient number of terrain units to produce differences in vehicle speeds ranging from about 2 to 20 mph. Additional considerations were availability, accessibility, and representation of natural terrain features. Finally, some consideration was given to the presence of suitable terrain conditions for validation of the AMC-71 mobility model.

11. On the basis of the foregoing criteria, two areas were selected at Fort Knox and approved by AMSAA. These areas, designated as Fort Knox area 1 (FK1) and Fort Knox area 2 (FK2), were mapped in March 1973, and assurance was given that they would be made available for vehicle testing in the spring of 1974. Because available areas at APG did not meet the selection criteria, no areas were selected at APG for mapping.

Location

12. FK1 is located in the northeastern part of the Fort Knox Military Reservation (fig. 1). It is irregular in shape--about 4 miles long and 1.3 to 2.0 miles wide, with a total area of 6.1 sq miles. An areal mosaic showing most of FK1 is given in fig. 2.

13. FK2 is located in the south central portion of the Fort Knox Military Reservation. It is nearly rectangular in shape, having a maximum length of 3.5 miles, a maximum width of 1.9 miles, and a total area of 4.7 sq miles. A mosaic showing all of FK2 is given in fig. 3.

Description

14. A general description of the Fort Knox study areas is given in the following paragraphs.

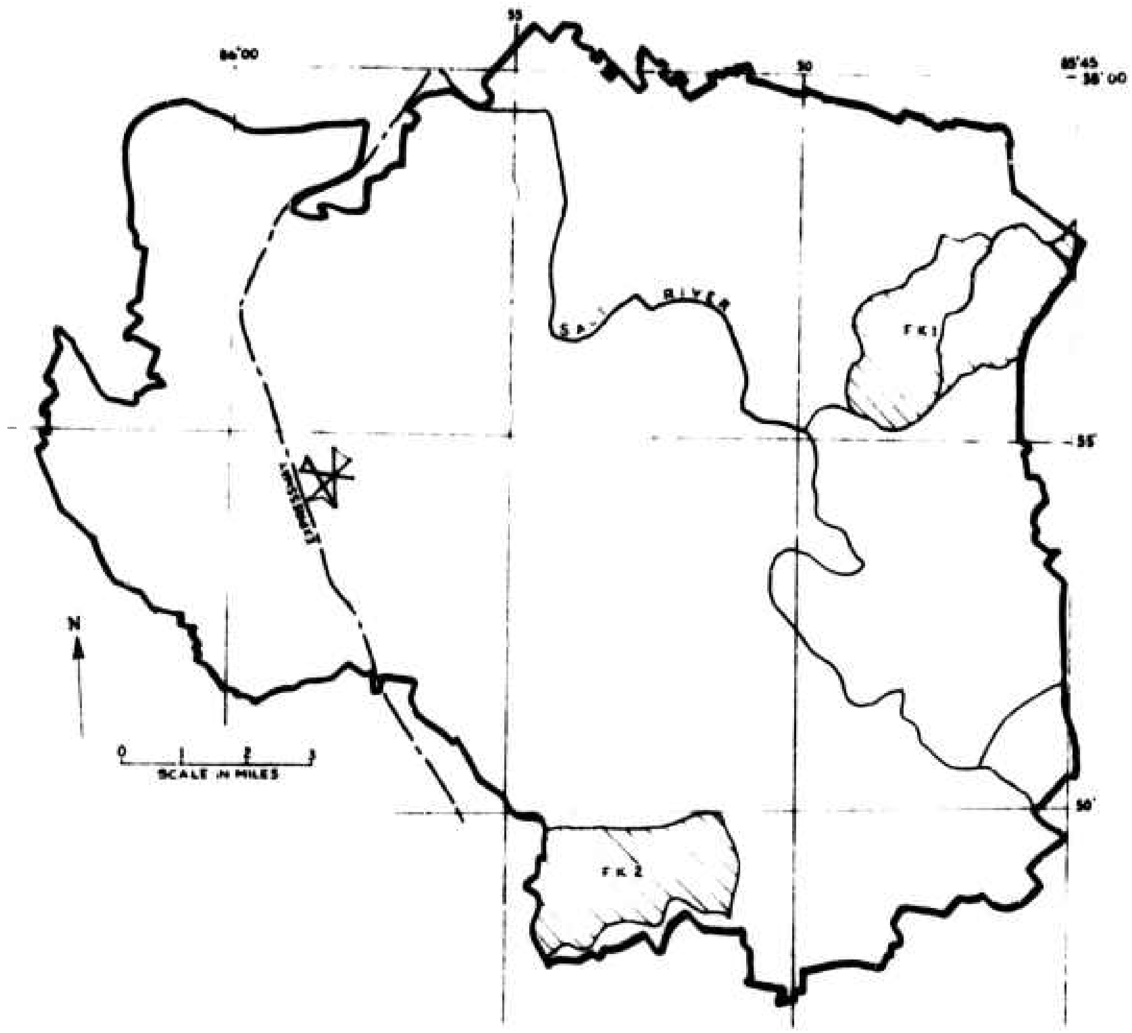


Fig. 1. Location of Fort Knox, Kentucky, study area

12<

13<

Fig. 2. Mosaic of Fort Knox terrain - FK1

Scale 1:25,000

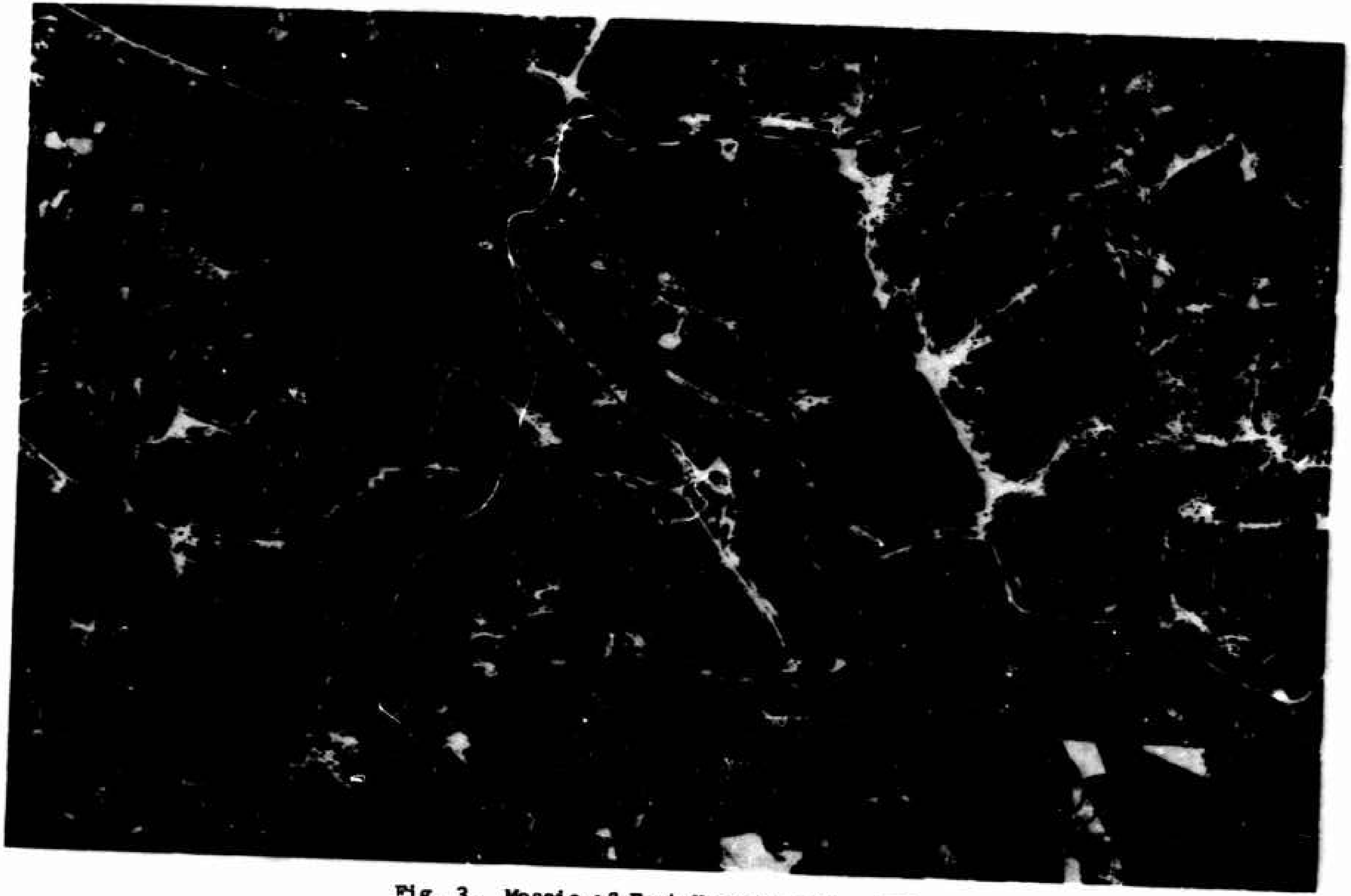


Fig. 3. Mosaic of Fort Knox terrain - FK2

Scale 1:25,000

15. Physiography. FK1 is located in the Salt River floodplain, which varies in width from 1 to 3 miles. Most of FK1 is very flat (typical of floodplains) except where boundaries extend slightly into the knobs, thereby incorporating some steeply sloping terrain. The elevations in FK1 (including knobs) vary from about 400 ft MSL along the Salt River to about 600 ft along the southeastern boundary.

16. FK2 is located in the Pennyroyal Plateau, which is a rolling upland developed on thick limestone bedrock. The plateau ranges from 6 to 20 miles in width across much of northern Kentucky and southern Indiana. The elevations in FK2 vary from about 600 ft MSL along Mill Creek to about 800 ft at the highest point.

17. Drainage. The Salt River is *the* major drainage system in FK1. Its location within the study area, together with other drainage features, is shown in fig. 1. Numerous small streams and ditches empty into the Salt River, providing adequate drainage except when the river is in flood stage. The Salt River varies from approximately 50 ft in width and 20 to 30 ft in depth during low-water stage to more than 300 ft in width and 40 ft in depth during the flood stage. The groundwater table for a large portion of FK1 is at or near the surface during periods of high river stages.

18. Mill Creek, Douglas Branch, and Dorrets Run provide excellent drainage in FK2 all year. The gradients of these streams are such that high water velocity may occur during high-intensity rains.

19. Soils. Most of the soils in FK1 are water deposited and vary from poorly drained silty clays located on flats of the Salt River bottom to variably drained silty clays on gently to steeply sloping knobs adjacent to the bottomland.

20. The soils in FK2 are residual and vary from clayey to silty clay soils that are moderately cherty. Most of these soils are well drained, occurring on uplands with narrow undulating ridge crests on moderately to steeply sloping hillsides. When wet these soils are very slippery.

21. Land use. The section of FK1 west of the Salt River is used primarily as a live firing range and impact zone. That part of FK1 east

15<

of the Salt River is seldom used by the military except as a buffer zone between the impact area and private property. Most of the land in FK1 is covered with deciduous or evergreen trees; however, some open land exists on both sides of the Salt River. Some of the land on the east side of the river has been cultivated within the last several years.

22. FK2 is used extensively by the military for training purposes. Parts of the area are subjected to frequent use by tracked vehicles. Numerous ditches occur in the area as a result of the tank ruts and subsequent erosion. A large part of FK2 is covered by deciduous or evergreen trees.

23. Weather and climate. The long-term (5-yr average) monthly rainfall and mean temperature data for Fort Knox (both FK1 and FK2) are given in fig. 4a. More than 2 in. of rain falls in each month of the year; the lowest rainfall occurs in October and the highest in April. The yearly mean average is 44 in. The mean monthly temperature is typical of a temperate climate, with an increase from January to July and then a decrease to December. The long-term mean monthly snowfall is as follows:

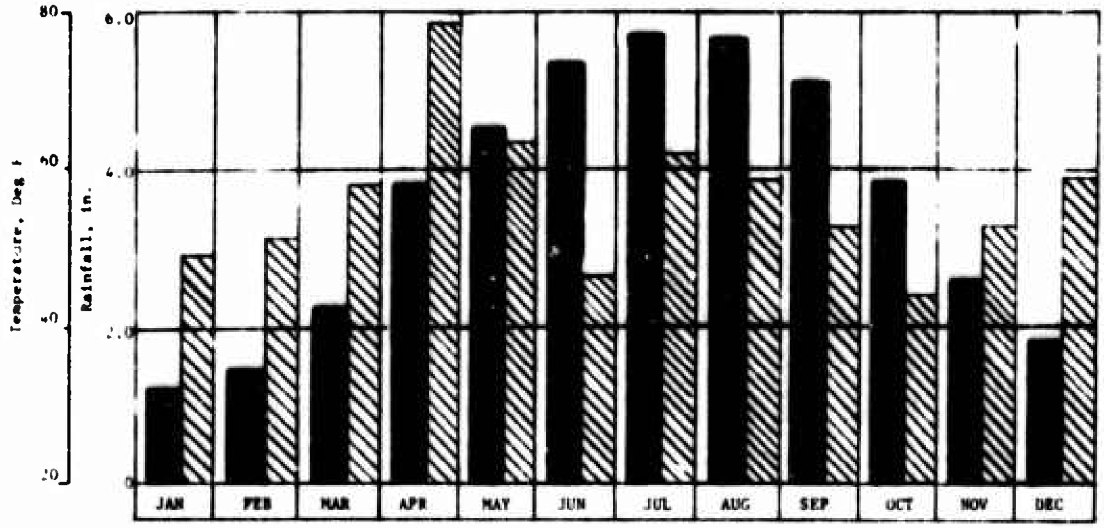
November - 1.2 in.
December - 2.1 in.
January - 4.2 in.
February - 3.1 in.
March - 3.9 in.

The snow cover rarely remains on the ground more than a few days.

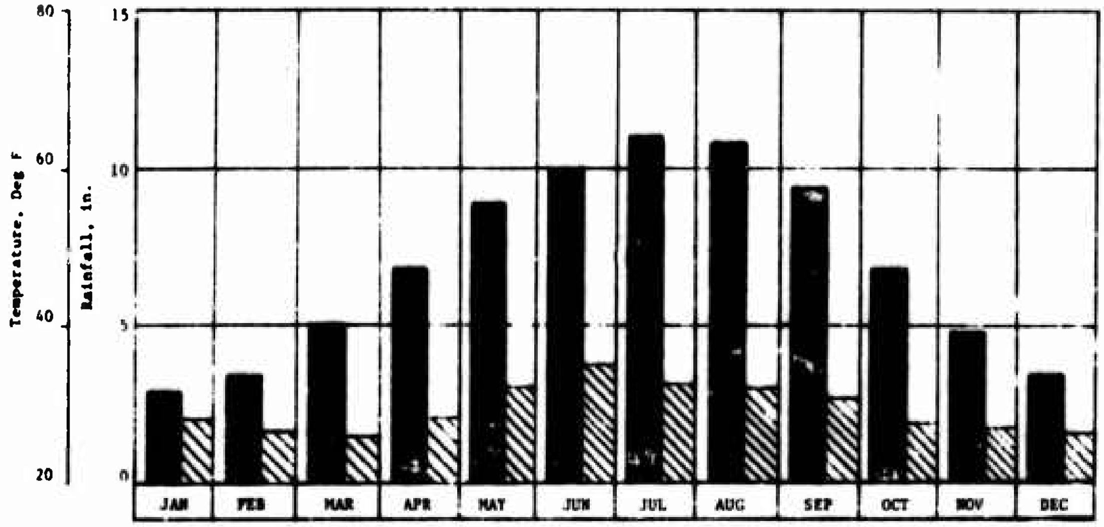
24. Road network. The principal road in FK1 is a secondary-type road that runs northeast and southwest on the west side of the Salt River. A similar road is found just outside the area along its eastern boundary. Trails lead from the secondary road to the river or to old farmlands. A four-wheel-drive vehicle is required to negotiate the trails in the wet season. The perimeter of FK2 is a paved road. The area within FK2 is crossed in a northwest-southeast direction by several trails that have been made during Army field training exercises. Many of the old trails are now ditches that cannot be negotiated.

25. Towns and villages. There are no towns or villages in either FK1 or FK2. However, FK2 is located much closer to the cantonment area of Fort Knox than is FK1.

16<



a. Fort Knox, Kentucky.



b. Stuttgart, West Germany

Legend:

Long-Term Average Monthly Temperature

Long-Term Average Monthly Rainfall

Fig. 4. Monthly rainfall and temperature data

17<

West German Terrain

Selection

26. For mobility and comparative terrain study purposes the West German transect (WGT) data were the best available. However, the procedures to assign surface roughness required revision to make the WGT terrain descriptions comparable to the Fort Knox study areas.

Location

27. WGT is located in the southwestern part of West Germany (fig. 5). It is bounded by the following map coordinates: latitude 49°02' to 49°04' north, and longitude 8°39' to 9°22' east. The transect is 3 km wide and 52 km long, with an area of 156 km^2 (approximately 60 sq miles). Several aerial photographs of the area within the transect, located as shown in fig. 6, are given in figs. 7, 8, and 9.

Description

28. A general description of WGT is given in the following paragraphs.

29. Physiography. WGT is located in the Bavarian Plateau, which is a roughly triangular region covering most of southern Germany. The average elevation at the east end of the transect is about 1250 ft MSL, and at the west end about 600 ft, giving a relief of about 650 ft. The transect is crossed from south to north by the Neckar River, a tributary of the Rhine River. East of the river, the area consists mostly of hills capped with sandstone underlain by shale. Some sections of the hilly area are rugged, but for the most part the terrain is rolling. West of the river, the area is tableland which consists mostly of undulating to gently undulating terrain underlain primarily by limestone.

30. Drainageways. The Neckar is the main river in the area. Several smaller rivers and streams originate in or cross the transect at various angles. Flat, narrow terraces are frequently found along the banks of the rivers and streams. Some stream channels have been modified, and the banks may have man-made structures to protect against erosion. Many slopes along drainageways are steep and consist of rock outcrops.

31. Soils. The soils are mainly residual with clays and silts developed from the shales and limestones. Isolated patches of alluvial

Fig. 5. Geographic location of West German transect (WGT)

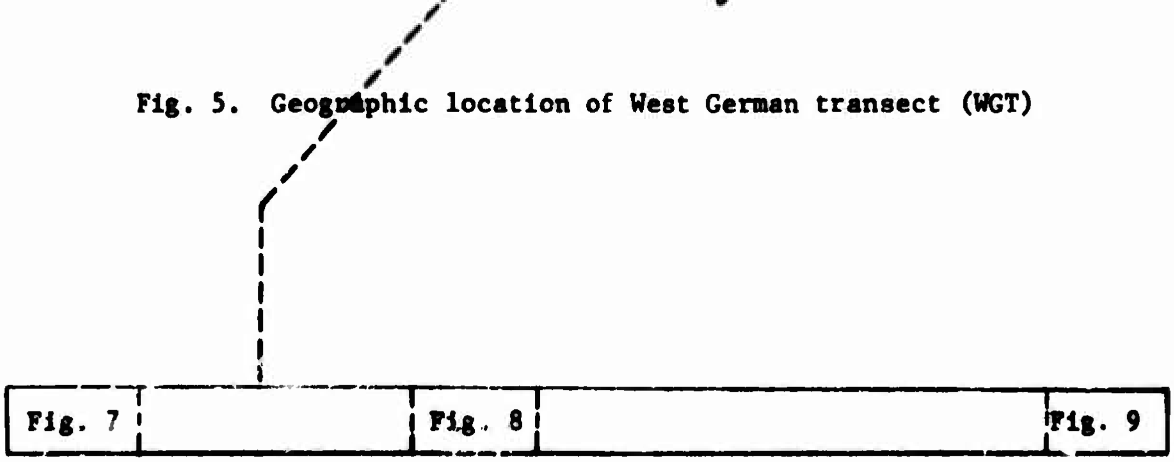


Fig. 6. Location of air photos along WGT

19

Fig. 7. Air photo of West Germany transect - west section Scale 1:24,000

Fig. 8. Air photo of West Germany transect - middle section Scale 1:24,000

Fig. 9. Air photo of West Germany transect - east section Scale 1:24,000

sands and gravels are found along former stream courses. Deposits of loess are commonly found adjacent to the Neckar River.

32. Land use. About 70 percent of the area in the transect is used for agriculture, with grain the principal crop. The higher, hilly lands and some of the bottomlands are forested; but in some hilly areas, vineyards are fairly common on the hillsides and are associated with man-made terraces.

33. Weather and climate. Long-term monthly rainfall and mean temperature data for Stuttgart, which is in the vicinity of the study area, are shown in fig. 4b. It can be seen that the rainfall is fairly evenly distributed throughout the year, ranging from 2 to 4 in. per month, with the heavier amounts occurring during the summer season. The rainfall amounts and distribution would indicate that excessive soil wetting would not occur except in the low-lying areas; thus, fairly high soil strength would exist most of the time in areas with reasonable surface drainage. The mean monthly temperature pattern is typical of temperate climates, with an increase in mean temperature from January to July or August and then a decrease to December.

34. The long-range maximum snow depth by month in the area of the transect is as follows:

October - 0.8 in.	February - 8.7 in.
November - 1.6 in.	March - 5.5 in.
December - 4.7 in.	April - 1.6 in.
January - 5.1 in.	

The snow cover rarely remains on the ground more than two or three days except during December, January, and February, when it may remain for periods of one to three weeks. During this time the average snow depth is generally less than 4 in.

35. Road network. A fairly well-developed network of primary, secondary, and trail-type roads exists in the area. Many trail-type roads occur throughout the countryside.

36. Towns and villages. Several towns and villages are located inside the transect, the principal ones being Kirchheim am Neckar, Gemmrigheim, Bonnigheim, and Bretten.

23<

PART III: RESULTS

Terrain Maps

37. Field inspection of FK1 and FK2 revealed a wide range of terrain conditions. Terrain data were collected at 119 sites and, together with other available data such as topographic maps, aerial photographs, etc., were used to prepare areal and linear terrain factor complex maps. A detailed explanation of the procedures used in collecting field data and preparing terrain unit maps is given in Appendix A. With the aid of the terrain factor complex maps, traverses can be selected in the Fort Knox study areas which will contain sufficient terrain variations for conducting valid mobility evaluation tests with the ARSV's. These vehicle tests can be used to establish confidence (difference between predicted and measured vehicle performance) in the AMC-71 mobility model predictions.

Comparison of Fort Knox and West German Terrains

38. The Fort Knox and West German terrains considered in this study were compared on the bases of general description, areal occupancy, and occurrence of terrain units, terrain factors, vehicle performance, and factors controlling speed. These comparisons are presented in detail in Appendix B.

General descriptions

39. The area mapped as WGT is nearly six times as large as the combined areas of FK1 and FK2. WGT and FK2 are located on plateaus; FK1 is located in a floodplain. Both FK1 and WGT are crossed by a large river and contain some small streams; FK2 has no large river but has numerous small streams. Drainage is excellent in WGT and FK2 throughout the year, while during most of the year drainage is poor in FK1.

40. Soils in FK1 are largely alluvial silty clays, in FK2 are usually residual silty clays, and in WGT are mostly residual silts and clays although some alluvial soils are found along the rivers and streams.

41. Climate is generally similar in the three areas, although the

temperature and rainfall are slightly higher in FK1 and FK2 than in WGT.

42. The most important difference in the areas is in land use. Approximately 70 percent of the land in WGT is used for agricultural purposes, with grain as the principal crop. FK1 and FK2 are portions of a military reservation primarily used for training purposes; more than 80 percent of FK1 and 50 percent of FK2 is covered by deciduous or evergreen woodlands. WGT contains many towns and villages and a dense road network, whereas FK1 and FK2 contain no towns or villages and only a few improved roads.

43. From this general comparison the terrain in WGT as a whole would appear significantly different from that in FK1 and FK2. However, a consideration of specific areas in terms of landform, soils, climate, and land use can reveal highly analogous areas.

Areal occupancy

44. The areal and linear terrain units and the factors used to describe them indicated little similarity between the Fort Knox and West German terrains when considered on the basis of areal occupancy.

Terrain units

45. No single terrain unit in WGT is exactly duplicated in FK1 or FK2. However, terrain units very similar to those in the forested areas of WGT can be located in FK1 or FK2, although their relative size and frequency of occurrence will differ.

46. The terrain units in the croplands, which comprise more than half of WGT, do not occur in FK1 or FK2. However, there is some land in FK1 and FK2 that is very similar to the croplands of WGT except for the presence of crop rows, and these could be added by the simple process of plowing a few furrows.

47. The chief difference in the linear terrain units in WGT and those in FK1 and FK2 is the extensive road network in WGT. While this road network is not duplicated in FK1 or FK2 as presently mapped, the extension of the linear terrain factor complex map to include the perimeter road around FK2 would provide many terrain units similar to those in WGT. Many similarities can be found in the terrain units comprising the drainage features in Fort Knox and WGT.

Terrain factors

48. Areal terrain factors. Although the areal occupancy and frequency of occurrence of individual terrain factor values do differ, generally the factor values which occur in WGT can be found in FK1 or FK2. For example:

- a. Soil strength. All of the soil strength classes occurring in WGT can be found in FK1 or FK2.
- b. Slopes. Slopes which occur in WGT and not in FK1 or FK2 represent only 0.2 percent of WGT.
- c. Surface roughness. All of the surface roughness classes which occur in WGT can be found in FK1 or FK2.
- d. Visibility. All of the visibility classes occurring in WGT can be found in FK1 or FK2.
- e. Obstacles. The major obstacles in WGT which are not found in FK1 or FK2 are the crop rows, which can be easily duplicated.
- f. Vegetation. All of the stem diameter classes found in WGT occur in some terrain units of FK1 or FK2. The spacing classes that are not duplicated represent areas of widely spaced trees that have little or no effect on vehicle performance. In any event, these spacing classes could conceivably be duplicated at Fort Knox by removing a few trees.

49. Linear terrain factors. All of the linear terrain factor values occurring in WGT can be found in FK1 or FK2 except low bank heights and approach angles. However, the overall range of low bank heights in WGT is duplicated in FK1 or FK2, and the missing classes represent only 2.0 percent of the WGT linear features. Most of the approach angles that do not occur in FK1 or FK2 as presently mapped would be found if the road around FK2 were included. The few steeper approach angles in WGT do not exist in FK1 or FK2.

Vehicle performance

50. The range of speeds for both vehicles that was predicted for WGT was also predicted for FK1 or FK2, although the relative areas for which these speeds were predicted did in some cases differ significantly.

Factors controlling speed

51. The predicted speeds for the M114A1E1 in FK1 and WGT were very similar. However, distribution of the controlling factors was different.

Primarily the obstacles (croprows) in the croplands limited speed of the M114A1E1 in WGT and vegetation-soil-slope combination limited speed in FK1. There was less similarity between predicted speeds for the M151A2 in WGT and in the Fort Knox study areas because of the even greater influence of the croplands in WGT on the speed of the M151A2.

52. The only immobilizing factor which occurred in WGT and not in FK1 or FK2 was the surface soil strength factor, which represents only 0.2 percent of WGT for the M151A2 and 0.1 percent of WGT for the M114A1E1.

53. All of the factors limiting speed that occurred in WGT also occurred in both FK1 and FK2.

Assessment

54. Terrain units can be selected in FK1 and FK2 that will yield vehicle performance similar to that in terrain units in WGT and for the same reasons. With some slight modifications of a few terrain units in FK1 and the extension of FK2 to include the perimeter road, most of the variations in WGT can be located in FK1 or FK2. However, it is cautioned that the differences in areal distributions would prevent a direct comparison of traverse speeds in FK1 or FK2 with traverse speeds in WGT. Nevertheless, the range of terrain conditions in FK1 and FK2 is sufficiently wide that the results of tests with the ARSV's and comparable vehicles over carefully selected traverses in FK1 and FK2 may be used to establish confidence in the AMC-71 mobility model predictions. The AMC-71 mobility model may then be used to extend the evaluation of the performance of the ARSV's over traverses in WGT.

27<

PART IV: CONCLUSIONS AND RECOMMENDATIONS

Conclusions

55. Based on the analysis presented herein, and principally upon the mobility predictions and diagnostics from AMC-71, and considering terrain impact on the evaluation of the ARSV's, it is concluded that:

- a. Traverses can be selected in the Fort Knox study areas that will contain sufficient terrain variations for conducting valid mobility evaluation tests with the ARSV's.
- b. The terrain conditions that can be found at Fort Knox are sufficiently comparable to those in WGT that confidence in the AMC-71 mobility model (difference between predicted and measured vehicle performance) established with the ARSV's and comparable vehicles in the Fort Knox terrain would be expected to also apply to a mobility evaluation of these vehicles in WGT using the AMC-71 mobility model.

Recommendations

56. It is recommended that:

- a. Mobility tests be conducted with the ARSV's and comparable vehicles along selected traverses in FK1 and FK2.
- b. Results of these tests be used to validate predictions for these areas made by the AMC-71 mobility model.
- c. Mobility evaluations of the ARSV's and comparable vehicles in WGT be made with the AMC-71 mobility model.
- d. Final judgments of the relative mobility potential of the ARSV prototypes and comparison vehicles be based upon the results of simulations c in light of the validation in b.

Table 1

Outline of Required Tasks

Task A: Terrain Analysis for the ARSV Test Program

1. Collect field data.

2. Prepare terrain factor maps of selected areas at Fort Knox.

3. Compare U. S. with West German terrains.

Task B: Validation Testing

1. Select traverses for field validation testing at Fort Knox.

2. Predict performance of selected vehicles in all Fort Knox terrain units and over selected traverses using AMC-71 mobility model.

3. Provde TECOM support (personnel and instrumentation).

4. Compare field and predicted vehicle performance data and adjust or extend AMC-71 mobility model as required.

Task C: Mobility Evaluation

1. Predict performance for six vehicles using AMC-71 mobility model and WGT.

2. Select mission traverses and collect vehicle performance data as required.

3. Evaluate performance of BTR-40P-2 over same traverses.

4. Conduct parametric analyses of specific design features.

Task D: Mobility Effectiveness Evaluation

1. Describe procedures for performing mobility-visibility effectiveness analysis.

2. Evaluate the mobility-visibility effectiveness of standard vehicles to be compared with ARSV.

APPENDIX A: PROCEDURES USED IN PREPARING TERRAIN MAPS OF FORT KNOX AND WEST GERMAN TERRAINS

Introduction

1. This appendix presents the procedures used in preparing areal and linear terrain factor complex maps for selected Fort Knox terrains (FK1 and FK2). It includes definitions of terrain terms applicable to mobility and procedures for field data collection. It also includes a discussion of the methodology used to revise the existing areal terrain factor complex maps of the West Germany transect (WGT).

Definitions

2. The general terrain terms used in this report are as follows:

a. Terrain factor. Any attribute of the terrain that can adequately be described at any point (or instant of time) by a single measurable value, for example, slope or obstacle height.

b. Terrain factor value. A specific occurrence of a terrain factor. For example, 2 percent is a factor value of the terrain factor, slope.

c. Terrain factor class (class range). A specified range of factor values established for a specific purpose; for example, a range of slope from 0 to 2 percent.

d. Terrain factor class number. A number assigned to a terrain factor class range. For mobility purposes, terrain factor class numbers are assigned in order of increasing severity of effect on vehicle performance.

e. Terrain factor complex number. A combination of two or more terrain factor class numbers chosen for a specific purpose.

f. Terrain unit. A patch (areal) or length (linear) of homogeneous terrain as defined by a specific array of terrain factors.

g. Terrain factor family. Two or more terrain factors grouped together.

30<

h. Terrain factor map. A map showing the terrain factor class number associated with specific map coordinates.

i. Terrain factor group map. A map showing a series of terrain factor class numbers associated with specific map coordinates.

j. Terrain factor complex map. A map which shows all pertinent terrain factor class numbers associated with all areal terrain or all linear terrain shown on the map.

3. The surface composition terms used in this report are as follows:

a. Fine-grained soil. A soil of which more than 50 percent of the grains, by weight, will pass through a No. 200 U. S. standard sieve (smaller than 0.074 mm in diameter).

b. Coarse-grained soil. A soil of which more than 50 percent of the grains, by weight, will be retained on a No. 200 sieve (larger than 0.074 mm in diameter).

c. Organic soils (muskeg). A terrain surface composed of a living organic mat of mosses, sedges, and/or grasses with or without tree or shrub growth. Underneath the surface there is a mixture of partially decomposed and disintegrated organic material, commonly known as "peat" or "muck."

d. Cone index (CI). An index of shearing resistance of soil obtained with the cone penetrometer. The value represents the resistance of the soil to penetration of a 30-deg cone of 0.5 sq in. base or projected area at a penetration of 6 ft/min.

e. Rating cone index (RCI). Product of CI and remolding index (RI). RI is the ratio of remolded soil strength to original strength. RCI expresses the soil strength rating of a soil subjected to vehicular traffic.

4. Surface geometry terms used in this report are as follows:

a. Slope. The angular deviation of a surface from the horizontal, expressed as a percentage.

b. Obstacle approach angles (A). The angle formed by the inclines at the base of a positive or top of a negative vertical obstacle that a vehicle must sense in surmounting the obstacle (see sketch).

c. Obstacle base width (WB). The distance across the bottom of the obstacle (see sketch).

d. Obstacle spacing (OBS). The horizontal distance between contact edges of vertical obstacles (see sketch).

e. Obstacle spacing type (OBST). The pattern of obstacle location (linear or random--see f and g).

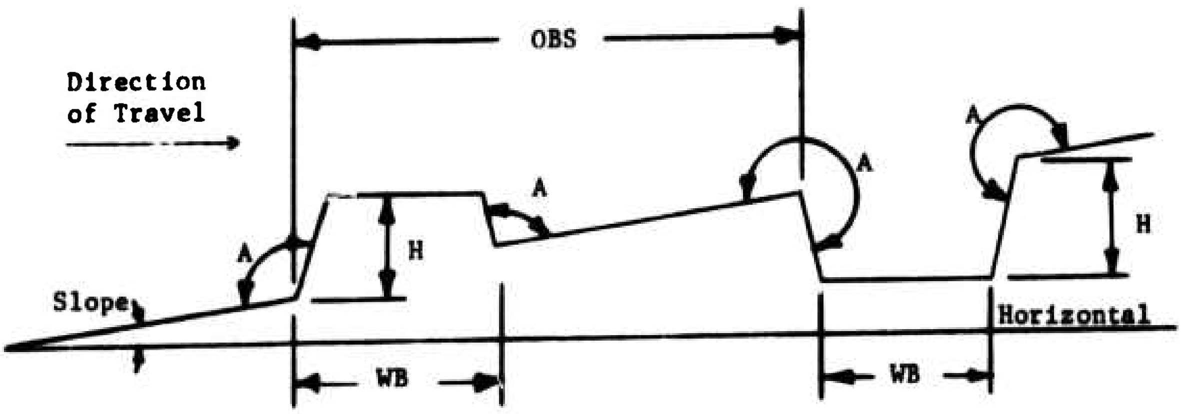
f. Linear obstacle spacing (LST). Distance between obstacles which cross the entire terrain unit and have a somewhat regular pattern, such as row crops or rice field dikes.

g. Random obstacle spacing (RST). Obstacles which do not cross the entire terrain unit and have a somewhat random location, such as stumps or logs.

h. Obstacle vertical magnitude (H). The vertical distance from the base of a vertical obstacle to the crest of the obstacle (see sketch).

i. Obstacle length (OBL). The length of the long axis of the obstacle.

j. Surface roughness. Microvariations of the terrain surface that adversely affects vehicle ride dynamics.



5. Vegetation terms used in this report are as follows:

a. Stem diameter. The diameter of the tree stems at breast height (4.5 ft) above the ground.

b. <u>Stem spacing.</u> The average distance between tree stems. This value is computed from the number of stems per unit area.

c. <u>Recognition distance.</u> The distance at which a vehicle driver can see and recognize objects that may be hazardous to his vehicle or to himself.

6. Linear geometry terms used in this report are:

a. <u>Left approach angle (LAA) and right approach angle (RAA).</u> The angle the stream bank or obstacle slope makes with a horizontal plane. (Left and right are determined looking upstream.) (See sketch.)

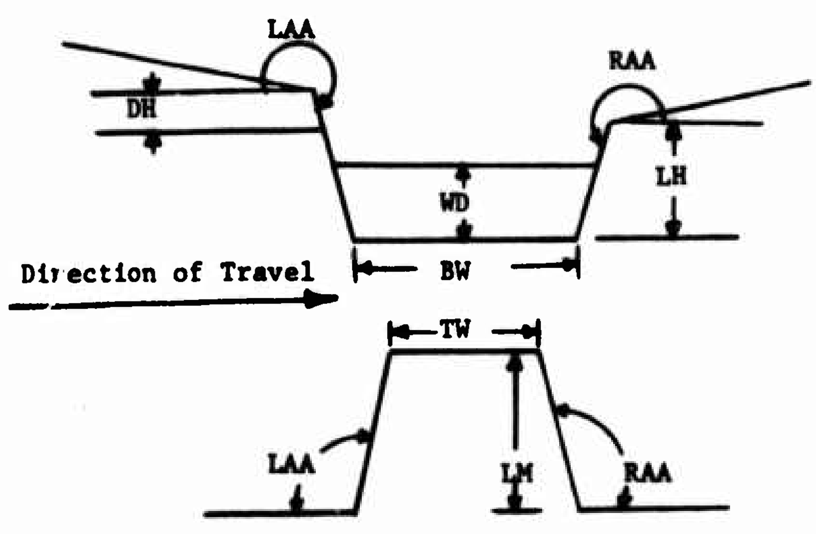
b. <u>Differential bank height (DH) or differential vertical magnitude (DM).</u> The difference in elevation between the two banks or obstacle approaches (see sketch).

c. <u>Low bank height (LH) or least vertical magnitude (LM).</u> Least difference in elevation between top and bottom of linear feature (see sketch).

d. <u>Base width (BW) or top width (TW).</u> Horizontal distance between two banks for concave feature and horizontal distance across top of convex feature (see sketch).

e. <u>Water depth (WD).</u> Vertical height of water above bottom of stream (see sketch).

f. <u>Water velocity (WV).</u> Maximum velocity of water in stream.



33<

Fort Knox Terrains

Literature survey

7. A literature survey was conducted to review all pertinent terrain data, maps, and aerial photographs concerning the study areas. Agencies contacted were the U. S. Army Armor and Engineer Board, U. S. Geological Survey Library, Defense Mapping Agency, and the Department of Agriculture. As expected, little or no quantitative data were available in terms of terrain factors needed for this study.

8. Topographic maps of Fort Knox at scales of 1:25,000 and 1:50,000 were obtained for this study. Geological, landform, and soils maps at a scale of 1:50,000 prepared by the United States Geological Survey, Department of Interior, were also available. The search for the most recent aerial photographic coverage at a scale of 1:20,000 revealed that FK1 was last photographed in 1965 and FK2 in 1972. These aerial photos were obtained from the Defense Mapping Agency.

Data collection

9. The field data-collection program was conducted during 6-24 March 1973. During this period, the following number of sites were sampled:

Area	Areal Terrain Sites	Linear Terrain Sites	Total
FK1	47	12	59
FK2	38	22	60
Total	85	34	119

The location of each sample site is shown in plates A1 and A2.

10. Data sites were selected by studying air photos, photo mosaics, and topographic maps and by making ground reconnaissance. The mosaics were examined to identify variations in tone and texture indicative of different terrain conditions. In most cases, the sites selected were based primarily on vegetation differences and topographic slope since often the other terrain factors are closely related to these terrain factors. After the sites had been selected, their locations were spotted on topographic maps of each area. A limited ground reconnaissance was made of

each area to inspect the selected sites and to select additional sites where there were terrain variations that had not been detected from the air photos. Some additional sites were also selected during the sampling program when other variations were observed.

11. Waterways Experiment Station (WES) methods were employed in collecting data for each terrain factor. Terrain factor values required for mapping were obtained at each site. Since some sites were selected to describe particular terrain factors that were different from others in the surrounding area, those terrain factors that were not different were not remeasured. The primary reason for not measuring all terrain factors at each site was to conserve time and thereby permit more sites to be visited.

12. <u>Surface composition.</u> Surface composition data collected included cone index (CI), remolding index (RI), bulk samples, moisture content and density, and surface sheargraph[1] measurements. Cone index was measured by making 10 penetrations in an area 10 ft by 20 ft in size. For each penetration, the CI was measured at the surface and at 3-in. vertical increments to a depth of 12 in. RI was measured for the 0- to 6-in. layer near the center of the sample area. RI was measured for the 6- to 12-in. layer for only a few sites in each study area.

13. Representative bulk samples were taken for laboratory determination of Atterberg limits and other soil properties necessary for soil classification. Samples were also obtained for laboratory analysis of moisture and density; these samples were usually taken from sites adjacent to where RI was measured. Sheargraph measurements of c and ϕ were obtained at a few sites.

14. <u>Surface geometry.</u> The surface geometry data collected included slope, obstacle geometry, and surface roughness descriptions.

<u>a</u>. <u>Slope.</u> The slope representative of the sample site was measured with an Abney level. The azimuth looking upslope was determined using a Brunton compass.

<u>b</u>. <u>Obstacle geometry.</u> The obstacle (log, boulder, ditches), if any, most typical of the sample area was selected for description purposes. The obstacle was described in terms of approach angle, vertical

magnitude, length, width, spacing, and spacing type. The orientation of linear obstacles was measured. In some cases no obstacles were found in the sample area and this was noted.

c. Surface roughness. A profile of the ground surface representative of the sample site was measured with an engineer level, a steel tape, and a Philadelphia rod. The length of the profile varied but was normally about 200 ft. Vertical elevations were taken at 1-ft horizontal increments except where the ground surface was judged exceptionally smooth. The azimuth of the profile was measured with a Brunton compass. The profile data were processed to obtain the root mean square (rms), a measure of the deviation of the amplitudes from the mean. Prior to the calculation of rms, special techniques were used in processing the data to remove slope and long wave lengths from the profile.

15. Vegetation. The vegetation factors measured were stem size, stem spacing, stem diameter, visibility, and tree height.

16. Stem diameter and stem spacing measurements were made in accordance with the structural cell sampling technique. In brief, a structural cell may be defined as a minimum area which includes a statistically significant sample of all the important variations in terms of selected parameters present in a given vegetation assemblage. In this study, the major interest was the distribution of tree stems of specific diameters.

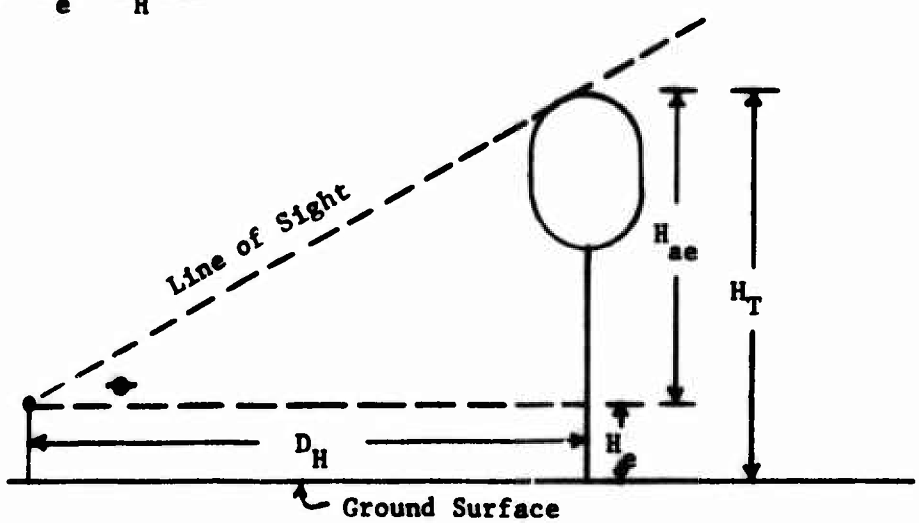
17. The sampling procedure used for describing vegetation stem is as follows: A cell center that appears to be representative of the area is selected in the vegetation assemblage. A cell size is then selected that contains 20 or more stems of the classes of stem sizes of interest. The diameter of the sample cell and the diameter of each stem in the cell are measured. Procedures for computing stem spacing from number of stems and area of cell are described in reference 2.

18. Visibility was sampled at each site; a five-point star was used as a target to determine recognition distance at 1 ft above ground. The sampling procedure at each site was as follows. A five-point star target was held 1 ft above the ground along an azimuth of the vegetation structural cell center. An observer directed the individual to move away

from the structural cell until he could recognize only two points of the star target. The distance from the observer to the target was recorded as the recognition distance. This procedure was repeated along two additional azimuths. These data were averaged for the site.

19. Tree-height measurements were made at each data site for use in the mobility effectiveness efforts (task D) of the ARSV cost and performance study. Tree height was determined from measurements with a Haga altimeter and a steel tape. The method of determining tree height is illustrated below:

$$H_T = H_e + D_H \tan$$



where:

H_T = Height of tree

H_{ae} = Height of tree above observer's eye

H_e = Height of observer's eye

$\tan \phi$ = Read directly from Haga altimeter

20. Linear geometry. Field data collected for each linear feature included a profile taken perpendicular to the feature. The section selected for measurement was a typical cross section of the features, such as streams, ditches, road embankments, road cuts, etc. A starting point was selected some 20-30 ft from the edge of the feature, and a base line

perpendicular to the feature was established. The azimuth of the base line was determined with a Brunton compass. A steel tape was placed at the original point and extended along the base line to a terminal point 20 to 30 ft from the edge of feature on the opposite bank. Horizontal distances were measured directly from the tape. Vertical offsets were taken with the transit and a Philadelphia rod. When the water in the linear feature was too deep for wading, the vertical offsets were obtained with a sounding line. CI was measured on both banks of the feature and in the streambed or on top of embankment features. Normally, three measurements were made at each of the above locations of the linear feature.

21. When applicable, current velocities and water depth were measured. The velocity was measured by placing a wood chip in the water and measuring the time required for it to travel a specified distance.

22. Supplementary data. Other terrain data collected at each site were land use, depth to water table, ground cover, and topographic position. Ground photos were also obtained at each data site.

23. Photographs taken at some of the data sites and at other selected locations in FK1 and FK2 are shown (photographs 1-5). The photographs are located by their military grid coordinates.

Data summaries

24. Summaries of the field data collected at each areal and linear terrain site are given in tables A1-A7.

Terrain factor classification

25. In order to show factor values as areal or linear phenomena rather than as a number of isolated points, it is necessary to group terrain factor values into terrain factor classes. The terrain factor classes used in this study to describe areal terrain factors and linear terrain factors are given in tables A8 and A9, respectively. Each terrain factor value measured or estimated was placed into a terrain factor class on the field data form.

Preparation of terrain factor and factor group maps

26. The data site locations were plotted on a photo mosaic. The mosaic was then used to prepare overlays showing both the location of

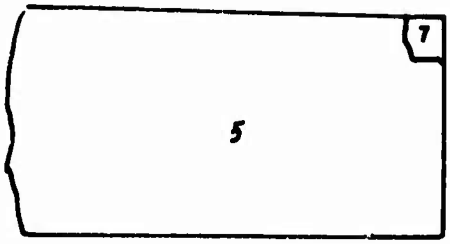
each site and the appropriate terrain factor class numbers or terrain factor group numbers assigned to the site. These overlays served as a base for preparing surface composition, slope, obstacle geometry, surface roughness, vegetation, and visibility maps.

27. Drafting, reproduction, and symbol recognition considerations dictated that the minimum width of any delineated area would be approximately 1/10 in.; thus, the smallest mappable area was a circle 1/10 in. in diameter, which represents 208 ft on the base map (scale 1:25,000). Terrain factor maps or terrain factor group maps were prepared as follows.

28. Surface composition map. The surface composition factors mapped in this study were surface material type and surface strength. Since field samples revealed that all the soils in both FK1 and FK2 were fine-grained, both surface material type and surface strength were portrayed on the same map. Surface strength was mapped at only the moisture condition that was encountered during the time of measurement (wet season); although the largest amounts of rainfall generally occur in April and May, the soil moisture was at field maximum at the time of testing. Topographic position, depth to bedrock, topographic slope, drainage characteristics, and land use were used in establishing the boundary between soil strength classes. Separate surface composition maps were prepared for linear and areal terrains. An example of a surface oomposition map for a portion of FK2 used in formulating areal terrain units is given in fig. A1.

29. Slope map. Slope factor maps were prepared from topographic maps having a scale of 1:50,000 and 20-ft contour intervals. Topographic maps having a scale of 1:25,000 with some 10-ft contours were used to supplement the 1:50,000 maps where required. Field data were used to verify the slopes established from topographic maps. A slope factor map for a portion of FK2 is given in fig. A2.

30. Obstacle maps. Recognition and description of obstacles from aerial photos are difficult to impossible in most cases. For example, an area on a photo that appears to contain large trees spaced closely together may or may not contain logs or stumps. Thus, the field data collected for



Scale: 1:25,000

LEGEND (partial)

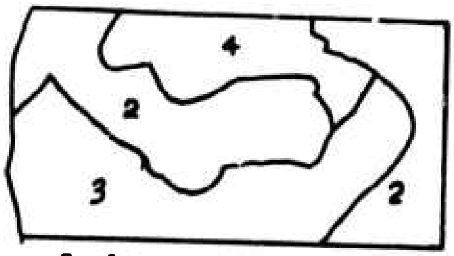
MAP UNIT*	SOIL TYPE*	SOIL STRENGTH*
5	1	5
7	1	7

* Each map unit represents an array of two symbols indicating soil type and soil strength.

Mapping class ranges for soil type and soil strength are:

SOIL TYPE		SOIL STRENGTH	
FACTOR CLASS NO.	TYPE	FACTOR CLASS	RCI
1	Fine grained soil	1	>280
2	Coarse grained soil	2	221 - 280
3	Muskeg	3	161 - 220
		4	101 - 160
		5	61 - 100
		6	41 - 60
		7	33 - 40
		8	26 - 32
		9	17 - 25
		10	11 - 16
		11	0 - 10

Fig. A1. Surface composition map (multiple factor)



Scale: 1:25,000

LEGEND

FACTOR CLASS NO.	SLOPE, %
1*	0 - 2
2	2.1 - 5
3	5.1 - 10
4	10.1 - 20
5	20.1 - 40
6*	40.1 - 60
7*	60.1 - 70
8*	>70

* Units not on map.

Fig. A2. Slope map (single factor).

41

describing the obstacle factors (approach angle, vertical magnitude, length, width, spacing, and spacing type) were used to identify and describe obstacles. Tone and texture patterns, topographic maps, and land use were used to establish boundaries between obstacle classes.

31. Since the data measured at each site describe a specific obstacle, it was more convenient to prepare a single map for obstacles than to prepare individual factor maps for each obstacle factor. The obstacle map for a portion of FK2 is given in fig. A3.

32. Surface roughness maps. Surface roughness (rms) was determined from measured microprofile data. Boundaries for the surface roughness factor were established with the aid of air photos and field observations. Fig. A4 is a surface roughness factor map of a portion of FK2.

33. Vegetation. Boundaries of different vegetation assemblages were drawn on air photos on the basis of pattern identification. For this study, field measurements of stem diameter and stem spacing were associated with particular air-photo patterns. Since all eight factors that describe a single vegetation assemblage were related to particular air-photo patterns, it was more convenient to prepare a single map containing all eight factors than to prepare individual factor maps for each stem diameter size.

34. The vegetation map for a portion of FK2 is shown in fig. A5.

35. Visibility. As a general rule, boundaries for the visibility factor maps followed closely those of the vegetation map, except where boundaries were noted to be different during field sampling. A portion of a visibility factor map for FK2 is given in fig. A6.

36. Linear geometry. Stereoscopic examination of the air photos, topographic maps, field measurements, ground photos, personal observations of areas, and background knowledge of hydrologic principles were the basic tools for mapping linear features. The first step was to prepare a base map identifying the linear features. A linear geometry map was then established by use of a specific combination of terrain factor classes measured at each site. Tick marks were used to separate linear features into segments.

Scale: 1:25,000

LEGEND (partial)

MAP UNIT*	OBSTACLE APPROACH ANGLE**	OBSTACLE VERTICAL MAGNITUDE**	OBSTACLE WIDTH**	OBSTACLE LENGTH**	OBSTACLE SPACING**	OBSTACLE SPACING TYPE**
1	1	1	1	1	1	1
18	15	2	5	6	3	1
22	14	6	3	6	5	1

* Each map unit represents an array of six symbols indicating mapping classes of obstacle approach angle, obstacle vertical magnitude, obstacle length, obstacle width, obstacle spacing, and obstacle spacing type.

** Mapping class ranges for each factor used in describing obstacles are:

OBSTACLE APPROACH ANGLE		OBSTACLE VERTICAL MAGNITUDE		OBSTACLE WIDTH		OBSTACLE LENGTH		OBSTACLE SPACING		OBSTACLE SPACING TYPE	
FACTOR CLASS NO.	DEG.	FACTOR CLASS NO.	IN.	FACTOR CLASS NO.	IN.	FACTOR CLASS NO.	FT.	FACTOR CLASS NO.	IN.	FACTOR CLASS NO.	TYPE
1	178.6 - 180.0	1	0 - 6	1	47	1	.0 - 1	1	Bare	1	Random
2	180.0 - 181.5	2	6.1 - 10.0	2	36 - 46.9	2	1.1 - 3.3	2	65.7 - 197.0	2	Linear
3	175.6 - 178.5	3	10.1 - 14.0	3	24 - 35.9	3	3.4 - 6.6	3	36.4 - 65.6		
4	181.5 - 184.5	4	14.1 - 18.0	4	12 - 23.9	4	6.7 - 10.0	4	26.5 - 36.[illegible]		
5	170.1 - 175.5	5	18.1 - 23.6	5	0 - 11.9	5	10.1 - 19.9	5	18.3 - 26.4		
6	184.5 - 190.0	6	23.7 - 33.5			6	20.0 - 492.0	6	13.4 - 18.2		
7	158.1 - 170.0	7	>33.5			7	>492	7	8.3 - 13.3		
8	190.1 - 202.0							8	.0 - 8.2		
9	149.1 - 158.0										
10	202.1 - 211.0										
11	135.1 - 149.0										
12	211.1 - 225.0										
13	90.0 - 135.0										
14	226.0 - 270.0										

Fig. A3. Obstacle map (multiple factors)

43<

LEGEND

FACTOR CLASS NO.	SURFACE ROUGHNESS, rms
1*	.0 - .4
2	.5 - 1.5
3	1.6 - 2.5
4*	2.6 - 3.5
5	3.6 - 4.5
6*	4.6 - 5.5
7*	5.6 - 6.5
8*	6.6 - 7.5
9*	>7.6

* Units not on this map.

Fig. A4. Surface roughness map (single factor)

LEGEND (partial)

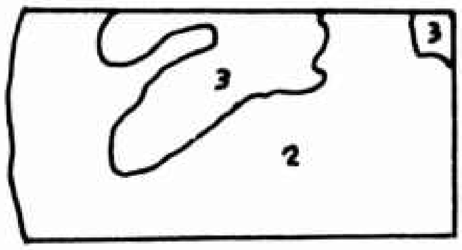
MAP UNIT*	STEM SPACING (CLASS)** OF STEM DIAMETER (CLASS)** EQUAL OR > THAN 1	2	3	4	5	6	7	8
1	1	1	1	1	1	1	1	1
15	8	8	8	8	8	7	7	6
21	8	8	7	6	5	1	1	1

* Each map unit represents an array of eight symbols indicating mapping classes of stem spacing of stem diameters equal to or greater than the stem diameter class shown.

** Mapping class ranges for stem diameter and stem spacing are:

STEM DIAMETER FACTOR CLASS NO.	IN.	STEM SPACING FACTOR CLASS NO.	FT
1	> .0	1	328
2	>1.0	2	65.6 - 327.9
3	>2.4	3	36.4 - 65.5
4	>3.9	4	26.5 - 36.3
5	>5.5	5	18.3 - 26.4
6	>7.0	6	13.4 - 18.2
7	>8.7	7	8.3 - 13.3
8	>9.8	8	.0 - 8.2

Fig. A5. Vegetation map (multiple factors)



LEGEND

FACTOR CLASS NO.	RECOGNITION DISTANCE, ft
1*	>164
2	79.0 - 163.9
3	39.6 - 78.9
4	29.8 - 39.5
5*	20.0 - 29.7
6*	15.1 - 19.9
7*	10.1 - 15.0
8*	5.1 - 10.0
9*	.0 - 5.0

* Units not on map.

Fig. A6. Visibility map (single factor)

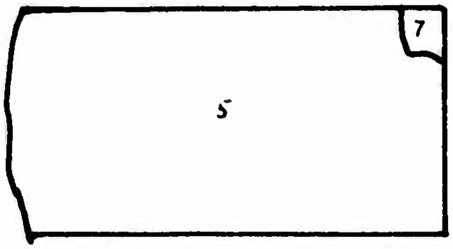
46<

Preparation of terrain
factor complex maps

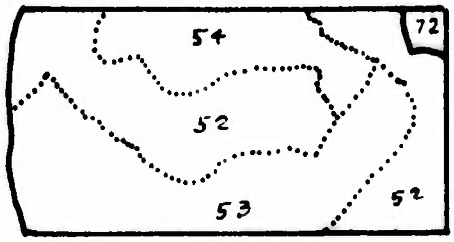
37. Areal terrain factor complex maps. The areal terrain factor complex maps prepared for the Ft. Knox study areas are composite terrain factor maps. In this study surface composition, slope, obstacle geometry, surface roughness, vegetation structure, and visibility maps were combined in that order to formulate the terrain factor complex maps. This process is illustrated in fig. A7 in which the sample terrain factor and factor group maps in figs. A1-A6 are successively overlaid.

38. A transparent copy of a surface composition factor-family map was used as a base for an areal factor complex map. Each map unit was identified by a single number that represented the class values of soil type and soil mass strength (figs. A1 and A7a). The slope map was then superimposed on the surface composition map and all lines that did not coincide with the lines on the surface geometry map were transcribed. Every outlined area was then identified by two numbers, the first of which represents a map unit of surface composition and the second, a map unit of slope (fig. A7b). For example, the shaded area designation (5, 2) indicates a map unit of 5 for surface composition and a map unit of 2 for slope. The obstacle geometry map was then superimposed on the surface compositon-slope map and all lines not coincident were transcribed. The resulting areas were identified by three numbers or number designations representing map units of soil composition, slope, and obstacle geometry, in that order (fig. A7c). For example, in the designation (5, 2, 18), 5 identifies the surface composition map unit, 2 identifies the slope map unit, and 18 identifies the obstacle geometry map unit.

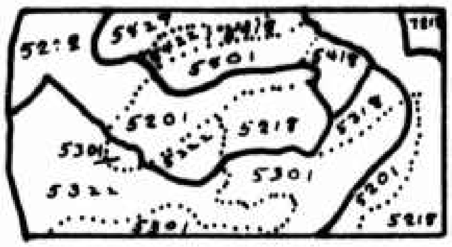
39. The surface roughness map, the vegetation structure map, and the visibility map were superimposed on the surface composition-slope-obstacle map one at a time, and each time lines that were not coincident were added and a map number designation added (figs. A7d, A7e, and A7f). This resulted in a six-number designation. For example, in the designation (5, 2, 18, 2, 01, 2), the 5 identifies the surface composition, 2 identifies the slope,



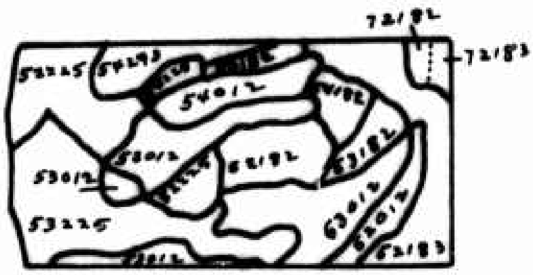
a. Surface composition map



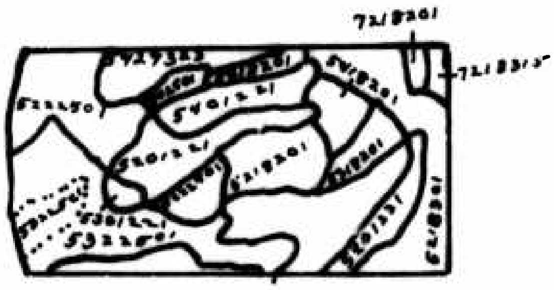
b. Surface composition-slope map



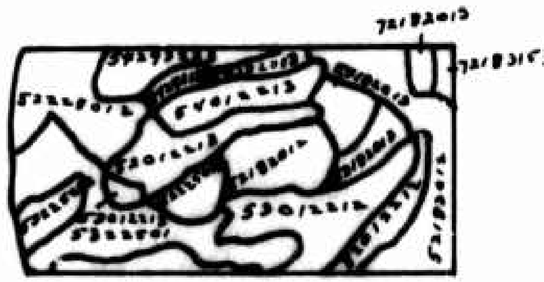
c. Surface composition-slope-obstacle map



d. Surface composition-slope-obstacle-surface roughness map



e. Surface composition-slope-obstacle-surface roughness-vegetation map



f. Surface compositic ;lope-obstacle-surface roughness-vegetation-visibility map

Fig. A7. Results of overlaying processes in formulating terrain factor complex map

18 identifies the obstacle geometry, 2 identifies the surface roughness, 01 identifies the vegetation, and the 2 identifies the visibility. The designation was then replaced by a single number (82) keyed to the map units for surface composition, slope, obstacle geometry, surface roughness, vegetation structure, and visibility (fig. A8). This number is called the terrain unit number.

40. One hundred ninety-two areal terrain units were required to describe FK1 and 193 areal terrain units were required to describe FK2. Separate areal terrain factor complex maps of FK1 and FK2 are given in plates A3 and A4, respectively. Legends for the factor maps of FK1 and FK2 are given in tables A10 and A11, respectively.

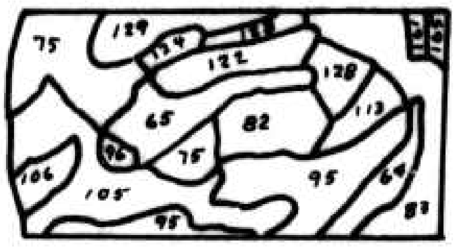
41. Linear terrain factor complex maps. The linear factor complex map is a composite of linear geometry and surface composition maps. The linear terrain map includes the geometry of drainage features, escarpments, and road embankments. The linear factor complex map was compiled from the linear surface composition map and the linear surface geometry in the same manner as the areal terrain factor complex map.

42. Seventeen linear terrain units were required to describe FK1 and 13 linear terrain units were required to describe FK2. Linear terrain factor maps and map legends for FK1 and FK2 are given in plates A5 and A6 and tables A12 and A13, respectively.

West German Terrain

Revision of surface roughness factor

43. The units shown on the available areal terrain factor complex map of the West German transect were formed by the process of superimposing all the terrain factors shown in table A14 except surface roughness. In the original mapping, a statistical sampling procedure was used to assign a surface roughness factor class to each terrain unit. Although this scheme was adequate for some earlier studies, it was believed that for the current study a more realistic approach was required for the determination of the surface roughness.



Scale: 1:25,000

LEGEND (partial)

				----OBSTACLE----															
TERRAIN UNIT	SURFACE TYPE	SURFACE STRENGTH	SLOPE	APPROACH ANGLE	VER. MAGNITUDE	WIDTH	LENGTH	SPACING	SPACING TYPE	SURFACE ROUGHNESS	Spacing of Stems Equal to or Greater than Given Stem Diameter Class 1	2	3	4	5	6	7	8	RECOG. DIST.
65	1	5	2	1	1	1	1	1	1	2	8	8	7	6	5	1	1	1	3
82	1	5	2	13	2	5	6	3	1	2	1	1	1	1	1				
95	1	5	3	1	1	1	1	1	1	2	8	8	7	6	5	1 1	1 1	1 1	2 2
105	1	5	3	12	6	3	6	5	1	5	1	1	1	1	1	1	1	1	2
106	1	5	3	12	6	3	6	5	1	5	8	8	7	6	5	1	1	1	2

Fig. A8. Terrain factor complex map

50<

44. Ideally the solution would be to prepare a surface roughness map based on measured surface profiles in the area. The original plan called for exactly that--to send a team to West Germany to collect additional ground truth data to complete the existing maps of the West German terrain. A request by WES and TACOM to visit West Germany was denied; therefore, the plan was modified to use available data to develop a more realistic estimate of rms for terrain unit on the existing map. No new terrain units would be created as a result of surface roughness revisions.

45. The available data consisted of air photographs and topographic maps of the transect area. Measured profiles and ground-level photos in somewhat similar areas in Germany and in the United States, descriptions and ground-level photographs of other areas in West Germany, and the aforementioned terrain factor complex map were also available.

46. Obviously, surface roughness in terms of rms cannot be read directly from an air-photo or topographic map. It was suspected, however, that rms could be inferred from other things that could themselves be recognized on air photos and topographic maps. After examination of the available data (including comparison of ground-level photographs taken in West Germany and the United States) and a visual inspection of the terrain in the local (Warren County, Mississippi) area, it was concluded that a reasonable approximation of surface roughness could be inferred from land use when cognizance is taken of topographic slope.

47. Land-use map. Accordingly, a land-use map of the transect was prepared from the air photos. The classes of land use that could be recognized on the air photos and that were assumed to be significant in this exercise were:

a. Towns: including industrial and residential areas.

b. Natural woodland: woodlands along streams and rivers, and occasionally on steep slopes, which do not appear to be cultivated woodlands.

c. Dense woodland: woodlands of sufficient density that individual trees cannot be recognized, with crowns of approximately uniform height, suggesting cultivation.

51<

d. Sparse woodland: woodlands of such density that individual trees can be recognized.

e. Cleared: grass- or brush-covered areas within or along the edge of woodlands.

f. Orchard: trees obviously in a regular geometric pattern.

g. Cropland: including both row and broadcast cultivated areas.

h. Vineyard: a distinct and easily recognizable feature on steep slopes.

i. Pasture: grass-covered areas, usually along streams, which do not have the rectangular pattern associated with croplands.

j. Quarry: an easily recognizable feature, devoid of vegetation, usually with near-vertical depressions.

k. Bare: areas devoid of vegetation, which lack the rectangular pattern associated with croplands and the near-vertical depressions associated with quarries; possibly construction sites or borrow areas.

48. Surface roughness factor map. The land-use map and the existing slope factor map were then combined into a surface roughness factor map using the surface roughness classes given in the following tabulation. The range of each surface roughness class in terms of rms is given in table A8.

	Surface Roughness Class						
Land Use	Slope Class 1	Slope Class 2	Slope Class 3	Slope Class 4	Slope Class 5	Slope Class 6	Slope Class 7
Cropland	2	2	2	2	2	2	2
Orchard	2	2	2	2	2	2	2
Dense woodland	2	2	2	2	2	2	2
Natural woodland	2	2	2	4	4	4	4
Sparse woodland	2	2	3	4	4	4	4
Cleared	2	2	3	4	4	4	4
Pasture	2	2	3	4	4	4	4
Quarry	-	-	-	4	4	4	4
Vineyard	-	-	-	-	4	4	4
Towns	Special Rules Apply						
Bare	Special Rules Apply						

49. The classes of surface roughness assigned in the foregoing tabulation were developed from the available data where possible. Although

previous terrain and mobility studies[3,4] in West Germany have not included surface profiles taken to establish surface roughness values, they have included some surface profiles that can be used for this purpose and have included descriptions from which rms can be reasonably inferred. Surface roughness data for some areas in the United States were available from studies conducted for the validation of the AMC-71 mobility model. For land use-slope combinations for which no data were available, the surface roughness class was assigned on the basis of existing data, engineering judgment, and knowledge of the general area, tempered by an awareness of how surface roughness affects vehicle performance and of how these data are used in the AMC-71 mobility model.

50. Note that only three classes of surface roughness occur in the tabulation--surface roughness classes 2, 3, and 4 from table A8. Surface roughness class 1, which represents an rms value range of 0.0 to 0.4 in. is, by existing ground rules, reserved for roads. (An rms value in this range could occur on playas, salt flats, or beach flats, but the likelihood of such occurrence in this area of West Germany is virtually nonexistent.) No surface roughness class greater than 4 is shown in the table for two reasons--first, class 4 extends to an rms value of 4.5 and greater values are rarely found; second, the difference in the effect of surface roughness class 4 and higher classes on speed predictions is insignificant.

51. The limited data available indicated that surface roughness generally increased with an increase in slope for the same land use. Normally, erosion may be expected to be more severe on steeper slopes, with an accompanying increase in surface roughness. The broadness of the class ranges of surface roughness tends to obscure this in the tabulation, although the indication exists with some exceptions.

52. The measured values of surface roughness for cropland were available only for croplands on the lower slopes. These data yielded a surface roughness class 2. This same class of surface roughness was assigned to croplands on higher slopes because it was believed that the surface roughness in croplands would be almost entirely dependent upon

53<

agricultural practices. Moreover, it seemed likely that the slope itself may have been modified; the land-use identification from the air photos is more reliable than the slope values from the topographic map.

53. The establishment of the surface roughness for orchards generally followed the reasoning given above for croplands, except that orchards on slope classes 6 and 7 were assigned a surface roughness class of three.

54. Sufficient data were available to fix the surface roughness class of dense woodlands and natural woodlands throughout the slope range with confidence.

55. The establishment of surface roughness for sparse woodland, cleared, and pasture areas was aided by inspection of similar terrain in Warren County, Mississippi, to supplement the available data.

56. A class 4 surface roughness was assigned to vineyards and quarries on the basis of discussions with personnel familiar with the area.

57. The special rules which apply to towns and to bare areas are discussed in paragraphs 58 and 59.

58. It should be pointed out that not all of the land use-slope combinations shown in the tabulation occur in the West German transect--for instance, pastures were not found on the steeper slopes, orchards were not found on the lower slopes, etc.

59. Assignment of surface roughness to terrain units. To determine surface roughness class for each terrain unit, the areal terrain factor complex map and the surface roughness factor maps were overlaid. Some terrain units which occurred many times were found in areas of different surface roughness as indicated by the surface roughness factor map. This was expected since several patches of terrain could be described in exactly the same way on the terrain factor complex map and still have different land uses and, hence, different surface roughnesses. For instance, a particular terrain unit might occur in cropland and also occur in a cleared or pasture area. Both would be properly described by the same areal terrain factor complex number (except for surface roughness, which was not evaluated in the original preparation of the areal terrain factor complex maps). The same condition obtains for orchards and certain

woodlands. Since one of the constraints of this exercise prohibited the establishment of additional terrain units, it was impossible to assign different surface roughness values to separate occurrences of the same terrain unit. Therefore, when a terrain unit fell into different surface roughness classes as indicated by the surface roughness values to separate occurrences of the same terrain unit. Therefore, when a terrain unit fell into different surface roughness classes as indicated by the surface roughness factor map, the surface roughness class which represented the largest area was assigned to that terrain unit.

60. The treatment of towns was admittedly arbitrary and, hopefully, a one-time-only procedure solely for this exercise. It is believed that vehicles traveling through town will use streets and roads which will generally fall into surface roughness classes 1 or 2. However, towns, per se, were not delineated on the areal terrain factor complex map. As a result, a given terrain unit may occur within and outside of a town. In this event, the surface roughness class applicable to the occurrence outside of the town was assigned to the terrain unit. When all occurrences of a terrain unit fell within a town, a surface roughness class 2 was assigned to the terrain unit.

61. For terrain units occurring in bare areas, the surface roughness class was established by consideration of the obstacles present. If no obstacles were present, surface roughness class 2 was assigned; if small obstacles were present, the area was considered to be the same as cleared areas (for the purpose of surface roughness) and the values of surface roughness established for cleared areas in the foregoing tabulation were used; if large obstacles were present, a surface roughness class 4 was assigned to the terrain unit.

62. It should be noted that the procedures given herein were generally followed to the maximum practical extent. However, some terrain units were examined individually (in stereo) and assigned a surface roughness class of best fit based on experience and judgment. This procedure was occasionally necessitated when land-use boundaries and terrain-unit

boundaries did not coincide, when land-use identification was questionable or did not clearly fit one of the established categories, and when an apparent anomally existed.

Areal terrain factor complex map

63. The areal terrain factor complex maps for WGT are given in plate A7; the new legend prepared for this study is given in table A14.

Linear terrain factor complex maps

64. The linear terrain factor complex maps for WGR are given in plates A8 and A9; the legend is given in table A15.

LITERATURE CITED

1. Rush, E. S. and Robinson, J. H., "Trafficability of Soils, Effects of Surface Conditions on Drawbar Pull of a Wheeled Vehicle," Technical Memorandum No. 3-240, Nineteenth Supplement, Apr 1971, U. S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss.

2. Blackmon, C. A. and Stoll, J. K., "An Analytical Model for Predicting Cross-Country Vehicle Performance; Appendix B: Vehicle Performance in Lateral and Longitudinal Obstacles (Vegetation), Vol I, Lateral Obstacles," Technical Report No. 3-783, Dec 1968, U. S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss.

3. Woods, H. K. and Shamburger, J. H., "Quantitative Description of Selected West German Terrain for Ground Mobility," Technical Report M-70-6, Apr 1970, U. S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss.

4. Friesz, R. R., et al, "European Waterways Study, A Procedure for Describing Tactical Gaps," Technical Report M-70-12, Jul 1970, U. S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss.

57<

Table A2

Summary of Soil Strength for Areal Terrain Sites, Ft. Knox, Kentucky

Site No.	1973 Date	Grid coordinates	Average Cone Index 0**	3	6	9	12	0-6†	6-12†	RI 0-6	RI 6-12	RCI 0-6	RCI 6-12	Sheargraph* R/S c	R/S φ	Wet R/S c	Wet R/S φ	Vane c	Vane φ	Remarks
1	12 Mar	039987	20	42	51	50	65	41	55	.41	.27	17		[illegible]	[illegible]	[illegible]	17.2	[illegible]	24.5	
2	12 Mar	040989	52	137	174	226	253	121	218	.73	-	88	-							RI from site 1
3	12 Mar	047992	22	74	91	156	174	62	140	.73	-	45	-							
4	12 Mar	046998	24	100	159	174	192	94	175	.73	-	69	-	1.0	16.5	0.7	16.0	...	18.4	RI from site 3
5	12 Mar	046002	42	118	160	176	180	107	172	.73	-	78	-							RI from site 3
6	12 Mar	055984	50	82	90	112	116	74	106	.47	-	35	-							
7	12 Mar	056988	20	36	51	82	102	35	78	.55	-	19	-							
8	12 Mar	051992	46	171	192	246	269	136	236	.73	-	99	-							RI from site 3
9	14 Mar	052994	55	156	158	165	195	123	173	.56	-	69	-	0.9	14.0	1.1	13.0	2.8	35.0	
10	14 Mar	050996	16	66	102	126	138	61	122	.56	-	34	-							
11	14 Mar	999052	22	62	102	106	106	62	105	.51	-	32	-	2.2	12.0	0.2	10.2	2.7	13.0	
12	14 Mar	000059	22	108	150	202	220	93	191	.43	.38	40	73							
13	14 Mar	058006	26	52	141	162	164	73	156	.50	-	34	-	2.0	2.45	0.3	5.5	1.8	25.5	
14	14 Mar	055007	39	77	82	85	82	66	83	.66	-	44	-	2.0	17.5	1.3	17.5	3.4	25.0	Soils data from linear site No. 2
15	15 Mar	067022	10	39	131	206	229	60	189	.36	-	22	-							
16	15 Mar	070023	29	96	125	132	161	83	139	.40	-	33	-	Free H_2O		0.4	11.0	1.8	14.5	
17	15 Mar	068021	18	85	135	158	176	79	156	.55	-	43	-	Free H_2O		0.6	7.0	2.5	16.3	
18	15 Mar	069014	54	136	174	182	190	121	182	.47	-	57	-	1.0	20.5	0.7	20.0	2.5	31.5	
19	15 Mar	066016	38	91	169	197	216	99	194	.53	-	52	-	1.5	13.5	0.6	17.0	4.7	10.0	
20	15 Mar	061008	25	104	146	178	188	92	171	.49	-	45	-	0.8	27.3	0.4	22.8	2.6	31.4	RI from site 21
21	15 Mar	057009	32	96	118	138	160	82	139	.49	-	40	-							
22	15 Mar	060012	19	56	96	116	126	57	112	.60	-	36	-							
23	15 Mar	069011	20	41	70	80	99	44	83	.39	-	17	-							
24	15 Mar	069008	24	54	94	133	118	57	115	.71	-	40	-							
25	15 Mar	064013	32	104	130	154	163	89	149	.59	-	53	-							
26	16 Mar	094014	25	36	81	181	201	67	154	.35	.43	16	66							
27	18 Mar	058987	20	73	106	112	122	66	113	.76	-	50	-							
28	18 Mar	072011	37	61	83	98	106	60	96	.76	-	46	-							RI from site 27
29	18 Mar	074010	40	77	172	228	221	96	207	.47	-	45	-							RI from site 18
30	18 Mar	079022	32	74	88	116	128	65	111	.71	-	46	-							RI from site 24
31	18 Mar	044985	44	58	79	116	130	60	106		-	26	-							RI from site 12
32	18 Mar	041982	38	56	88	142	170	61	133		-	26	-							RI from site 12
33	18 Mar	040986	36	67	96	135	161	66	131	.43	-	28	-							RI from site 12
34	19 Mar	095015	51	162	160	176	192	118	176	.47	-	55	-							RI from site 18
35	19 Mar	081994	28	52	138+	155+	156+	73+	150+	.73	-	53	-							RI from site 3
36	19 Mar	082996	51	98	108	108	104	83	107	.58	-	48	-							
37	19 Mar	086998	16	50	76	110	130	47	105	.38	-	18	-							
38	19 Mar	086001	20	63	114	136	147	66	132	.56	-	37	-							RI from site 9
39	19 Mar	083003	13	46	75	114	132	45	107	.55	-	25	-							RI from site 7
40	19 Mar	089005	17	54	144	189	189	72	174	.50	-	36	-							RI from site 13
41	19 Mar	087020	61	155	182	212	237	133	210	.47	-	63	-							CI from linear site 9, RI from site 18
42	19 Mar	088017	22	44	79	151	190	48	140	.38	-	18	-							
43	23 Mar	081997	24	46	75	90	94	48	86	.39	-	19	-							RI from site [illegible]
44	23 Mar	079999	27	73	163	175	204	81	174	.59	-	48	-							RI from site [illegible]
45	23 Mar	077004	55	61	96	128	137	71	120	.59	-	42	-							RI from site 25
46	23 Mar	086012	18	60	104	158	176	61	146	.59	-	36	-							RI from site 25
47	23 Mar	091007	20	70	108	116	135	66	120	.59	-	19	-							RI from site 25

(Continued)

*R/S - sheargraph measurements made with rubber head.
Vane - sheargraph measurements made with metal head.
φ - angle of internal friction, deg.
c - cohesion, psi.

**Depth below surface, in.

†Soil layer, in.

Table A1 (Concluded)

Site No.	1973 Date	Grid Co-ordinates	Average Cone Index 0	3	6	9	12	0-6	6-12	RI 0-6	RI 6-12	RCI 0-6	RCI 6-12	Tractor Class 0-6	Sheargraph R/S C	R/S i	Wet R/S C	Wet R/S i	Vane C	Vane i	Remarks
										PR2											
1	6 Mar	012851	46	258	300	300	300	201	300	.58	.66	117	198	4							RI from Site 6
2	6 Mar	012852	26	143	300	300	300	156	300	.58	.66	90	198	5							RI from Site 6
3	6 Mar	012854	66	278	300	300	300	215	300	.58	.66	125	198	4							RI from Site 6
4	6 Mar	009859	92	300	300	300	300	231	300	.58	.66	134	198	4							RI from Site 6
5	6 Mar	011870	44	192	300	300	300	179	300	.58	.66	104	198	4							RI from Site 6
6	6 Mar	009875	45	206	136	88	104	96	109	.58	.66	56	72	6							
7	6 Mar	009866	70	268	268	266	271	187	268	.58	.66	113	177	4	1.2	20.5	1.0	15.8	2.3	23.8	RI from Site 6
8	7 Mar	011853	24	180	300	300	300	168	300	.58	.66	97	198	5							RI from Site 6
9	8 Mar	007861	48	300	300	[illegible]	300	216	300	.58	.58	125	198	4							RI from Site 6
10	7 Mar	004852	44	139	206	[illegible]	204	129	208	.42	-	54	-	6							
11	7 Mar	004857	39	71	99	103	116	70	106	.54	-	38	-	7	0.4	19.0	0.2	7.0	[illegible]	21.3	
12	7 Mar	002858	30	182	300	300	300	171	300	.54	-	92	-	5							RI from Site 17
13	7 Mar	001858	70	300	300	300	300	223	300	.54	-	120	-	4							RI from Site 17
14	7 Mar	001864	54	90	70	82	114	71	89	.72	-	51	-	6							RI from Site 17
15	7 Mar	999865	28	62	52	77	91	47	73	.72	-	34	-	7							RI from Site 17
16	8 Mar	006868	47	300	300	300	300	216	300	.58	.66	125	198	4							RI from Site 6
17	7 Mar	996859	52	112	145	180	227	103	184	.72	-	74	-	5							
18	8 Mar	999870	32	59	178	300	300	90	259	.48	-	43	-	6							
19	10 Mar	982867	124	250	261	300	300	212	287	.48	.60	102	172	4	1.3	30.0	1.2	27.0	3.4	30.0	RI from linear Site 20.
20	9 Mar	984861	38	71	136	164	204	82	168	.48	.60	39	101	7							
21	8 Mar	986853	40	89	128	171	188	86	162	.35	.40	30	65	8							
22	7 Mar	975846	58	116	160	232	300	111	231	.42	-	47	-	6							
23	7 Mar	966842	44	104	90	90	108	74	96	.43	.40	34	38	7							
24	8 Mar	971851	58	264	300	300	300	207	300	[illegible]	.40	89	120	5							RI from Site 21
25	8 Mar	967864	68	300	300	300	300	223	300	-		223	300	2							Rock prevented taking RI
26	11 Mar	994867	24	238	259	250	264	173	257	.58	.66	100	170	5	0.4	23.5	0.5	20.2	[illegible]	26.5	RI from Site 6
27	8 Mar	972850	81	300	300	300	300	227	300	.43	.40	98	120	5							RI from Site 23
28	8 Mar	964862	20	144	200	238	259	121	232	.52	-	63	-	5							RI from Site 32
29	7 Mar	006853	76	300	300	300	300	225	300	.72	-	162	-	3							RI from Site 17
30	8 Mar	997871	56	144	190	162	172	130	175	.58	-	75	-	5							RI from Site 6
31	8 Mar	003874	33	300	300	300	300	211	300	.58	.66	122	198	4							
32	10 Mar	972861	83	177	200	201	226	153	204	.52	-	80	-	5	1.2	24.0	1.0	22.5	3.8	33.5	
33	10 Mar	993865	88	160	164	134	150	137	149	.58	-	79	-	5							RI from Site 6
34	11 Mar	985864	79	122	208	240	262	136	237	.48	.60	65	142	5	1.4	17.0	-	-	2.8	13.0	RI from Site 20
35	11 Mar	005870	48	255	263	300	300	189	288	.58	.66	110	190	4	1.2	29.5	1.8	28.5	2.8	29.0	RI from Site 6
36	21 Mar	992867	88	160	164	134	150	137	149	.58	-	79	-	5							Soils data from Site 6
37	22 Mar	970864	20	144	200	238	259	121	232	.52	-	63	-	5							Soils data from Site 28
38	22 Mar	967865	20	144	200	238	259	121	232	.52	-	63	-	5							Soils data from Site 28

(Concluded)

2 of 2 Sheets

Table A2

Supplementary Soils Data Summary for Areal Terrain Sites
Ft. Knox, Kentucky

Site No.	1973 Date	Grid Coordinates	Dry Density, lb/ft^3 0-6 in.	Dry Density, lb/ft^3 6-12 in.	Moisture Content, % 0-1/4 in.	Moisture Content, % 0-6 in.	Moisture Content, % 6-12 in.	Soil Classification USCS, 0-6 in. Atterberg Limits LL	PL	PI	Soil Type
				FK1							
1	12 Mar	039987	82.5	78.8		35.7	40.4	42.0	26.2	15.8	ML
2	12 Mar	040989				41.3					*
3	12 Mar	047992	93.6		40.7	27.5					CL
4	12 Mar	046598				33.7					
5	12 Mar	046002	88.7			31.9					
6	12 Mar	055984	86.3			32.4					CL
7	12 Mar	056988	82.4			37.8					CL
8	12 Mar	051992			41.2	33.0					
9	14 Mar	052994	97.5		47.8	24.4					
10	14 Mar	050996	89.8			30.5					
11	14 Mar	999052	89.6		37.4	31.6					
12	14 Mar	000059	[illegible]4.3			33.3					ML
13	14 Mar	058006	86.0		49.2	35.1					
14	14 Mar	055007	83.1			34.6					
15	15 Mar	067022	83.0			37.3					CL
16	15 Mar	070023	82.3		127.6	34.4					
17	15 Mar	068021	92.6		37.7	28.4					
18	15 Mar	069014	88.8		70	29.6					ML
19	15 Mar	066016	77.8		6[illegible]	38.5					
20	15 Mar	061008	75.9		[illegible].9	40.7					
21	15 Mar	057009	90.3			29.1					
22	15 Mar	068012	89.3			31.7					
23	15 Mar	06901[illegible]	90.2			31.5					
24	15 Mar	069008	88.2			31.5					CL
25	15 Mar	064013	87.0			32.9					
26	16 Mar	094014	87.6			34.0					MH
27	18 Mar	058978	86.0			34.4		44.6	24.9	19.7	CL
28	18 Mar	072011	86.0			34.4					
29	18 Mar	074010	82.3		70.6	34.4					
30	18 Mar	079022	90.7			29.5		48.3	25.7	22.6	CL
31	18 Mar	044985	84.3			33.3					
32	18 Mar	041982	84.3			33.3					
33	18 Mar	040984	84.3			33.3					
34	19 Mar	095015	82.3		70.6	34.4					
35	19 Mar	081994	93.6		40.7	27.5					
36	19 Mar	082996	90.2			28.4					
37	19 Mar	084998	82.9			27.6		58.6	33.5	25.1	MH
38	19 Mar	086001	97.5		47.8	97.5					
39	19 Mar	08[illegible]003	82.4			37.8					
40	19 Mar	089005	86.0		49.2	35.1					MH
41	19 Mar	087020	91.1			28.1					
42	19 Mar	088017	88.8			32.2		41.9	24.8	17.1	CL
43	23 Mar	081997	90.2		7.0	31.5					
44	23 Mar	079999	87.0			32.9					
45	23 Mar	077004	87.0			32.9					
46	23 Mar	084012	87.0			32.9					
47	23 Mar	091007	87.0			32.9					

(Continued)

*Field Classification techniques were used.

Table A2 (Concluded)

Site No.	1973 Date	Grid Coordinates	Dry Density, lb/ft^3 0-6 in.	Dry Density, lb/ft^3 6-12 in.	Moisture Content, % 0-1/4 in.	Moisture Content, % 0-6 in.	Moisture Content, % 6-12 in.	Soil Classification USCS, 0-6 in. Atterberg Limits LL	PL	PI	Soil Type
				FX2							
1	6 Mar	012851				23.2		32.1	20.2	11.9	CL
2	6 Mar	012852	83.9			31.4					ML
3	6 Mar	012856				30.0					
4	6 Mar	004859				20.3					
5	6 Mar	011870				31.8					
6	6 Mar	009875	84.4	95.9		28.8	27.3				
7	6 Mar	009866	25.3			93.0					
8	7 Mar	011853	100.3			22.6					
9	8 Mar	007861				24.9					
10	7 Mar	004852				26.4					
11	7 Mar	004857	85.8	97.9		31.5	25.5				
12	7 Mar	002858				18.7					ML
13	7 Mar	001858	85.8	97.9		31.5	25.5				
14	7 Mar	001864	94.4			26.6					
15	7 Mar	999865	82.0	91.4		32.6	27.7				
16	8 Mar	008868				21.2					
17	7 Mar	996859	89.2			28.1					
18	8 Mar	989870	92.7			26.2		30.8	23.[illegible]	7.3	ML
19	10 Mar	982867	92.7		28.0	26.0					ML
20	9 Mar	984861	92.2	96.3		27.0	24.5	32.8	21.2	11.6	CL
21	8 Mar	986853	95.8			22.1					
22	7 Mar	975846	78.5			45.8		31.1	24.0	7.1	ML
23	7 Mar	966842	81.3	89.8		33.8	28.3	38.6	25.7	12.9	CL
24	8 Mar	971851	109.6			20.8					
25	[illegible] Mar	967869									
26	11 Mar	004867	107.5		37.2	24.6					
27	8 Mar	972850				22.9					CL
28	8 Mar	964862				34.8		70.9	26.3	44.6	CH
29	7 Mar	006853	87.6			22.7					CL
30	8 Mar	997871	92.2			28.7	26.1	34.1	25.2	8.9	ML
31	8 Mar	003874				19.6		39.2	19.7	19.5	CL
32	10 Mar	972861	94.2		51.0	26.2					
33	10 Mar	993865				29.0					
34	11 Mar	985864	91.8		30.0	27.8					MH
35	11 Mar	005870			23.8	21.2					
36	21 Mar	992867				29.0					
37	22 Mar	970864				34.8					
38	22 Mar	967865				34.8					

(Concluded)

2 of 2 Sheets

Table A3

Summary of Surface Geometry Data (Except Surface Roughness)
For Areal Terrain Sites
Ft. Knox, Kentucky

Site No.	1973 Date	Grid Coordinates	Azimuth deg	Topographic Slope %	Obstacle: Approach Angle deg	Obstacle: Vertical Magnitude in.	Obstacle: Base Width in.	Obstacle: Length ft	Obstacle: Spacing ft	Obstacle: Spacing Type*
					FK1					
1	12 Mar	039987	29	1	90	4	6	15	100	R
2	12 Mar	040989	270	58	90	4.5	4.5	19	15	R
3	12 Mar	047992	44	1	210	16	33	3	200	R
4	12 Mar	046998	ND	1	No obstacles recognized					R
5	12 Mar	046002	278	2	60	12	48	4	100	R
6	12 Mar	055984	176	1	No obstacles recognized					
7	12 Mar	056988	279	1	No obstacles recognized					
8	12 Mar	054992	153	11	120	7	40	4	100	R
9	14 Mar	052994	174	2	No obstacles recognized					R
10	14 Mar	050996	ND	6	210	6	30	3	100	R
11	14 Mar	999052	25	8	No obstacles recognized					R
12	14 Mar	000059	90	1	90	7	7	20	150	R
13	14 Mar	058006	40	3	205	8	24	2	25	R
14	14 Mar	055007	120	40	250	14	24	100	200	R
15	15 Mar	067022	341	1	No obstacles recognized					R
16	15 Mar	070023	71	1	90	8	6	50	150	R
17	15 Mar	068021	ND	7	197	5	10	60	150	R
18	15 Mar	069014	206	12	200	3	18	150	100	R
19	15 Mar	066016	223	0	230	6	6	50	10	R
20	15 Mar	061008	275	10	No obstacles recognized					R
21	15 Mar	057009	130	1	No obstacles recognized					R
22	15 Mar	068012	80	1	No obstacles recognized					R
23	15 Mar	069011	52	7	No obstacles recognized					R
24	15 Mar	069008	207	25	200	3	6	150	50	R
25	15 Mar	064013	310	15	90	6	6	19	80	R
26	16 Mar	094014	21	2	No obstacles recognized					R
27	18 Mar	058978	40	<1	90	5	5	30	20	R
28	18 Mar	072011	275	1	90	10	10	10	150	R
29	18 Mar	074010	270	6	200	10	40	10	150	R
30	18 Mar	079022	90	1	250	15	22	2	200	R
31	18 Mar	044985	270	1	90	4	4	15	35	R
32	18 Mar	041982	90	2	210	7	36	3	150	R
33	18 Mar	040984	ND	3	235	10	48	4	150	R
34	19 Mar	095015	ND	2	90	24	24	2	100	R
35	19 Mar	[illegible]	66	47	90	8	8	15	60	R
36	19 Mar	082996	19	6	No obstacles recognized					R
37	19 Mar	084998	90	1	90	14	14	35	250	R
38	19 Mar	086001	ND	3	No obstacles recognized					R
39	19 Mar	083003	90	1	No obstacles recognized					R
40	19 Mar	089005	90	1	No obstacles recognized					R
41	19 Mar	087020	41	1	90	26	13	1.1	150	R
42	19 Mar	088017	ND	1	No obstacles recognized					R
43	23 Mar	081997	0	1	No obstacles recognized					R
44	23 Mar	079999	270	1	No obstacles recognized					R
45	23 Mar	077004	140	1	90	5	5	20	100	R
46	23 Mar	084012	215	1	90	4	4	100	100	R
47	23 Mar	091007	45	1	90	8	8	30	150	R

(Continued)

*R - random.
L - linear.

1 of 2 Sheets

Table A3 (Concluded)

Site No.	1973 Date	Grid Coordinates	Azimuth deg	Topographic Slope %	Obstacle Approach Angle deg	Obstacle Vertical Magnitude in.	Obstacle Base Width in.	Length ft	Spacing ft	Spacing Type*
					FK2					
1	6 Mar	012851	200	4	20	10	36	500	50	L
2	6 Mar	012852	0	1.8	No obstacles recognized					R
3	6 Mar	012854	4	11	No obstacles recognized					R
4	6 Mar	009859	80		142	66	60	300	50	R
5	6 Mar	011870	270	5.8	90	9	9	40	150	R
6	6 Mar	009875	ND	0.1	No obstacles recognized					R
7	6 Mar	009866	265	3.1	45	18	120	19	100	L
8	7 Mar	011853	187	8	90	12	12	25	85	R
9	8 Mar	007861	255	5	225	17	20	250	100	R
10	7 Mar	004852	345	13	90	9	9	50	100	R
11	7 Mar	004857	115	7	225	52	96	100	250	R
12	7 Mar	002858	210	4	260	18	50	150	40	R
13	7 Ma	001858	115	16	30	17	60	5	30	R
14	7 Mar	001864	340	5	225	18	225	30	200	R
15	7 Mar	999865	270	16	90	20	23	2	100	R
16	8 Mar	006868	360	3	210	8	54	100	100	R
17	7 Ma	996859	225	9	40	16	30	25	70	R
18	8 Mar	989870	100	13	90	8	8	2	100	R
19	10 [illegible]	982867	97	2	210	5	16	100	150	R
20	9 [illegible]	984861	53	24	220	18	24	30	150	R
21	8 Mar	986853	220	9	90	8	8	25	50	R
22	[illegible] Mar	975846	45	11	90	10	7	50	150	R
23	7 Mar	966842	50	8.3	20	6	24	100	200	R
24	8 Mar	971851	308	3	178	4	40	10	50	R
25	8 Mar	967869	150	24	90	7	7	40	100	R
26	11 Mar	004867	0	4	225	16	48	150	200	L
27	8 Mar	972850	0	3	No obstacles recognized					R
28	8 Mar	964862	200	11	225	24	24	25	20	R
29	[illegible] Mar	006853	217	15	105	10	10	19	200	R
30	[illegible] Mar	997871	128	8	250	7	20	100	100	L
31	[illegible] Mar	003874	130	8	225	24	36	250	50	R
32	[illegible] Mar	972861	285	7	No obstacles recognized					
33	[illegible] Mar	993865	207	8	90	9	8	40	50	R
34	11 Mar	985864	100	10	220	12	18	30	100	R
35	11 Mar	005870	314	7	210	14	24	150	100	R
36	21 Mar	992867	ND	5	90	10	24	100	250	R
37	22 Mar	970864	135	8	90	12	12	15	50	R
38	22 Mar	967865	200	11	225	24	24	25	20	R

(Concluded)

2 of 2 Sheets

Table A4

Summary of Surface Roughness Data for Areal Terrain Sites
Fort Knox, Kentucky

Site No.	Surface Roughness rms, in.	Site No.	Surface Roughness rms, in.
	FK1		FK2
1	0.602	1	0.957
3	1.619	2	1.242
6	1.810	3	3.107
8	1.399	4	1.613
9	1.162	5	2.630
10	1.210	6	1.347
11	1.021	7	3.441
12	1.035	9	3.033
13	2.033	10	2.344
15	0.749	12	4.403
18	1.485	16	2.340
19	1.182	19	1.188
23	0.699	20	3.367
24	0.821	22	1.597
26	1.223	23	1.114
27	0.626	24	1.135
34	0.381	26	1.233
42	1.545	27	1.139
		30	3.078
		31	2.929
		34	2.264
		35	3.050

Table A5

Summary of Vegetation Data for Areal Terrain Sites
Ft. Knox, Kentucky

Site No.	1973 Date	Grid Coordinates	Avg. Stem Spacing, ft, for Indicated Stem Dia., in. of >0	>1.0	>2.4	>3.9	>5.5	>7.0	>8.7	>9.8	Tree Height Max	Tree Height Mean	Recognition Distance of Target at Three Locations, 1 ft Above Ground 1	2	3	Avg.
							FK1									
1	12 Mar	039987	10.0	11.2	21.1	23.3	40.5	328.0	328.0	328.0	20	15	40	60	75	58
2	12 Mar	040989	6.1	7.2	9.4	12.1	23.1	28.3	328.0	328.0	70	40	40	45	40	42
3	12 Mar	047992	328.0	328.0	328.0	328.0	328.0	328.0	328.0	328.0	1	1	200	200	200	200
4	12 Mar	046998	328.0	328.0	328.0	328.0	328.0	328.0	328.0	328.0	12	6	35	35	35	35
5	12 Mar	046002	4.4	9.1	15.0	18.0	23.7	328.0	328.0	328.0	27	20	25	20	30	25
6	12 Mar	055984	10.6	11.3	14.8	20.9	32.6	72.5	72.5	328.0	25	20	75	65	60	67
7	12 Mar	056980	18.6	20.1	22.9	29.4	110.0	[illegible]	328.0	328.0	27	18	90	100	75	88
8	12 Mar	051992	8.1	8.1	8.9	10.2	13.3	19.4	38.9	38.9	55	40	100	95	105	100
9	14 Mar	052994	8.3	9.1	13.3	20.7	31.6	54.8	77.5	328.0	30	30	26	65	70	75
10	14 Mar	050996	328.0	328.0	328.0	328.0	328.0	328.0	328.0	328.0	2	0	160	165	150	158
11	14 Mar	999052	328.0	328.0	328.0	328.0	328.0	328.0	328.0	328.	0	0	120	110	100	110
12	14 Mar	000059	10.3	10.3	11.6	15.3	25.0	30.6	33.5	37.5	90	75	90	100	100	96
13	14 Mar	058006	328.0	328.0	328.0	328.0	328.0	328.0	328.0	328.0	2	0.5	160	160	80	133
14	14 Mar	055007	21.6	21.6	22.0	24.0	29.4	31.8	31.8	33.2	90	70	50	20	20	30
15	15 Mar	067022	328.0	328.0	328.0	328.0	328.0	328.0	328.0	328.0	2	1	60	60	96	72
16	15 Mar	070023	6.2	7.1	9.7	12.0	16.6	24.5	24.5	26.8	70	50	160	160	160	160
17	15 Mar	068021	328.0	328.0	328.0	328.0	328.0	328.0	328.0	328.0	8	1	60	30	150	80
18	15 Mar	069014	5.1	5.9	9.3	10.6	15.8	19.4	19.4	33.6	60	40	110	95	100	102
19	15 Mar	066016	6.7	6.7	9.3	17.3	21.2	26.8	42.4	60.0	50	26	95	100	90	95
20	15 Mar	061008	12.5	12.5	15.1	18.4	24.2	25.6	26.5	30.9	95	75	30	40	35	35
21	15 Mar	057009	7.8	8.6	13.2	23.9	33.7	39.0	47.7	47.7	60	30	35	80	90	68
22	15 Mar	060012	5.5	7.7	16.5	70.0	328.0	328.0	328.0	328.0	30	20	40	40	40	40
23	15 Mar	069011	328.0	328.0	328.0	328.0	328.0	328.0	328.0	328.0	30	10	60	80	100	80
24	15 Mar	069008	328.0	328.0	328.0	328.0	328.0	328.0	328.0	328.0	6	1	100	100	100	100
25	15 Mar	064013	12.3	12.3	12.3	12.9	14.4	15.6	20.8	28.3	70	60	160	150	150	153
26	16 Mar	096016	328.0	328.0	328.0	328.0	328.0	328.0	328.0	328.0	2	1	54	160	150	121
27	18 Mar	050978	7.9	7.9	7.9	10.0	13.5	18.7	32.4	72.5	75	55	60	120	100	93
28	18 Mar	072011	8.5	8.5	10.3	12.8	15.5	18.1	30.0	30.0	50	45	70	60	80	70
29	18 Mar	076010	5.9	7.3	11.2	16.5	22.1	28.6	40.4	40.4	50	40	30	60	66	52
30	18 Mar	079022	328.0	328.0	328.0	328.0	328.0	328.0	328.0	328.0	10	7	10	20	10	13
31	18 Mar	044985	7.5	8.8	12.3	16.8	16.8	16.8	16.8	16.8	100	90	90	70	80	80
32	18 Mar	041982	12.5	13.7	16.7	19.6	27.1	45.0	90.0	328.0	30	18	50	60	50	53
33	18 Mar	040984	11.0	11.5	14.9	23.0	46.0	65.0	328.0	328.0	20	10	40	35	45	40
34	19 Mar	095015	8.6	9.5	11.8	15.0	17.4	19.5	22.7	24.5	90	70	75	60	140	92
35	19 Mar	081994	12.1	12.1	14.3	16.1	17.7	19.6	21.8	22.5	100	85	30	35	75	47
36	19 Mar	082996	4.5	4.5	8.2	15.0	45.0	328.0	328.0	328.0	40	21	25	30	20	25
37	19 Mar	086998	8.4	8.4	9.8	13.2	17.0	21.1	28.6	31.3	90	70	50	75	100	75
38	19 Mar	086001	328.0	328.0	328.0	328.0	328.0	328.0	328.0	328.0	25	6	10	15	30	18
39	19 Mar	083003	5.0	5.7	13.4	21.2	328.0	328.0	328.0	328.0	30	18	50	60	40	50
40	19 Mar	089005	328.0	328.0	328.0	328.0	328.0	328.0	328.0	328.0	1	1	60	45	160	88
41	19 Mar	087020	8.7	12.7	14.6	15.8	18.1	19.5	20.6	21.9	90	70	150	160	140	150
42	19 Mar	088017	328.0	328.0	328.0	328.0	328.0	328.0	328.0	328.0	1	1	80	160	160	133
43	23 Mar	081997	5.2	6.2	9.1	14.3	328.0	328.0	328.0	328.0	45	30	40	45	35	40
44	23 Mar	079999	8.0	9.5	13.9	18.0	20.6	28.5	31.8	31.8	90	60	75	85	70	77
45	23 Mar	077004	9.0	10.5	15.9	18.8	22.5	25.0	25.0	25.0	80	65	150	160	145	152
46	23 Mar	084012	10.3	11.9	14.4	19.6	23.2	30.0	34.0	36.7	90	75	125	90	120	116
47	23 Mar	091007	11.8	11.8	13.9	16.4	20.6	31.8	40.2	45.0	70	60	150	160	155	155

(Continued)

1 of 2 Sheets

Table A5 (Concluded)

Site No.	1973 Date	Grid Coordinates	Avg. Stem Spacing, ft, for Indicated Stem Dia., in. of 0	>1.0	>2.4	>3.9	>5.5	>7.0	>8.7	>9.8	Tree Height Max	Tree Height Mean	Recognition Distance of Target at Three Locations, 3 ft Above Ground 1	2	3	Avg.
							FE2									
1	6 Mar	012051	28.4	28.4	28.4	28.4	28.4	28.4	28.4	29.1	65	60	100	56	75	77
2	6 Mar	012052	320.0	320.0	320.0	320.0	320.0	320.0	320.0	320.0	96	8	44	75	65	61
3	6 Mar	012054	8.1	8.5	14.6	17.3	42.4	320.0	320.0	320.0	75	42	90	90	95	92
4	6 Mar	009059	320.0	320.0	320.0	320.0	320.0	320.0	320.0	320.0	0	0	200	200	200	200
5	6 Mar	011070	22.5	22.5	27.5	27.5	27.5	29.4	29.4	30.5	90	72	80	100	175	118
6	6 Mar	009075	5.6	5.6	8.0	10.9	15.9	31.8	320.0	320.0	78	60	57	66	60	61
7	6 Mar	009066	320.0	320.0	320.0	320.0	320.0	320.0	320.0	320.0	0	0	39	110	150	100
8	7 Mar	011053	9.4	12.0	17.6	24.6	28.4	38.9	41.6	41.6	81	72	60	135		98
9	8 Mar	007061	320.0	320.0	320.0	320.0	320.0	320.0	320.0	320.0	40	10	21	25	23	23
10	7 Mar	004052	11.8	12.7	17.4	22.7	25.6	30.1	32.1	34.7	95	85	120	90	150	120
11	7 Mar	004057	5.9	6.6	9.8	13.9	18.9	22.4	25.0	25.0	60	60	75	100	85	87
12	7 Mar	002050	320.0	320.0	320.0	320.0	320.0	320.0	320.0	320.0	0	0	160	38	38	79
13	7 Mar	001058	14.9	14.9	15.3	16.8	17.4	18.0	19.6	21.7	78	78	160	100	120	127
14	7 Mar	001064	15.0	15.4	16.2	20.1	25.0	30.0	30.0	31.8	75	60	100	145	150	132
15	7 Mar	999065	11.8	12.1	15.9	17.7	19.6	21.2	22.5	25.0	90	81	115	110	120	115
16	8 Mar	006068	320.0	320.0	320.0	320.0	320.0	320.0	320.0	320.0	0	0	30	24	30	28
17	7 Mar	996059	8.0	8.4	10.6	14.5	18.7	29.6	36.2	36.2	60	52	100	100	114	105
18	8 Mar	989070	9.7	10.7	15.4	18.8	20.6	22.5	25.0	27.1	65	51	180	160	50	130
19	10 Mar	982067	320.0	320.0	320.0	320.0	320.0	320.0	320.0	320.0	8	3	100	63	40	68
20	9 Mar	984061	7.4	8.7	11.6	12.5	5.0	15.0	15.0	15.9		45	65	23	25	38
21	8 Mar	986053	5.0	5.6	6.9	7.2	7.5	9.9	11.9	16.8	50	42	125	125	100	117
22	7 Mar	975046	11.8	12.5	14.1	14.6	15.0	15.0	16.0	17.3	84	75	75	135	180	130
23	7 Mar	966042	12.5	13.2	16.2	17.7	19.8	24.7	26.2	29.1	75	40	60	130	100	97
24	8 Mar	971051	320.0	320.0	320.0	320.0	320.0	320.0	320.0	320.0	50	5	115	110	100	108
25	8 Mar	967069	10.1	13.0	20.3	23.7	25.4	26.3	26.3	26.3	40	25	46	80	40	55
26	11 Mar	004067	320.0	320.0	320.0	320.0	320.0	320.0	320.0	320.0	15	3	30	35	30	32
27	8 Mar	972050	7.6	9.6	13.3	15.9	27.5	320.0	320.0	320.0	45	25	50	42	30	41
28	8 Mar	964062	320.0	320.0	320.0	320.0	320.0	320.0	320.0	320.0	1	1	75	90	90	85
29	7 Mar	006053	10.3	10.7	12.5	14.2	18.2	21.7	23.7	26.5	60	54	160	155	160	158
30	8 Mar	997071	320.0	320.0	320.0	320.0	320.0	320.0	320.0	320.0	30	8	51	40	30	40
31	8 Mar	003074	320.0	320.0	320.0	320.0	320.0	320.0	320.0	320.0	10	5	150	120	30	100
32	10 Mar	972061	4.5	5.2	8.4	13.6	22.5	320.0	320.0	320.0	45	30	65	50	30	42
33	10 Mar	993065	9.4	10.5	15.0	16.4	19.0	20.6	21.9	24.5	65	52	100	75	75	83
34	11 Mar	985064	320.0	320.0	320.0	320.0	320.0	320.0	320.0	320.0	30	2	60	50	110	73
35	11 Mar	005070	320.0	320.0	320.0	320.0	320.0	320.0	320.0	320.0	18	2	40	30	45	38
36	21 Mar	992067	4.8	4.8	6.6	14.1	320.0	320.0	320.0	320.0	20	15	8	10	8	9
37	22 Mar	970064	7.6	8.9	16.2	20.6	21.7	24.6	24.6	24.6	80	60	50	70	80	67
38	22 Mar	967065	3.9	4.2	6.3	6.9	8.3	10.0	12.2	15.0	65	50	75	75	60	70

(Concluded)

2 of 2 Sheets

Table A6

<u>Summary of Terrain Data for Linear Terrain Sites</u>
<u>Ft. Knox, Kentucky</u>

Site No.	1973 Date	Grid Co-ordinates	Average Cone Index 0**	3	6	9	12	0-6	6-12	RI 0-6†	RI 6-12	RCI 0-6	RCI 6-12	Sheargraph* R/S c	R/S φ	Wet R/S c	Wet R/S φ	Vane c	Vane φ	Profile Azimuth deg	Left AA deg
																FK1					
1	12 Mar	052991	42	128	154	205	190	109	183	.73	-	79	-	0.5	11.0	0.7	9.0	1.7	6.0	43	200.0
2	14 Mar	056008	39	77	82	85	82	66	83	.66	-	44	-	2.0	17.5	1.3	17.5	3.4	25.0	0	190.5
3	15 Mar	061008	25	104	146	178	188	92	171	.49	-	45	-	0.8	27.3	0.4	22.8	2.6	31.4	183	203.0
4	15 Mar	059008	32	71	88	102	131	64	107	.77	-	49	-	1.6	13.0	0.3	12.5	4.7	14.0	324	225.0
5	15 Mar	079009	55	61	96	128	137	71	120	.59	-	42	-							180	215.0
6	18 Mar	058977	20	73	106	112	122	66	113	.76	-	50	-							150	195.0
7	18 Mar	071011	37	61	83	98	106	60	96	.76	-	46	-							265	196.0
8	19 Mar	094019	51	142	160	176	192	118	176	.47	-	55	-							270	235.0
9	19 Mar	087022	61	155	182	212	237	133	210	.47	-	63	-							50	206.0
10	18 Mar	057977	20	73	106	112	122	66	113	.76	-	50	-							230	212.0
11	19 Mar	085022	32	78	89	115	137	66	114	.47	-	31	-							210	206.0
12	19 Mar	080019	36	110	131	171	202	92	168	.47	-	43	-							260	218.0
																FK2					
1	6 Mar	012855	42	147	300	300	300	163	300	.58	-	95	-							255	249.0
2	6 Mar	011856	123	300	300	300	300	241	300	.58	-	140	-							315	190.0
3	6 Mar	012866	23	90	212	300	300	108	271	.58	-	63	-							273	230.0
4	6 Mar	012867	30	109	174	233	300	104	236	.58	-	60	-							187	190.0
5	10 Mar	974868	54	72	72	108	153	66	114	.44	.56	29	64	1.5	15.0	1.2	10.0	1.8	8.0	61	195.0
6	8 Mar	006865	17	29	41	65	57	29	48	.45	.73	13	35							225	190.0
7	11 Mar	984862	31	61	72	113	151	55	112	.57	-	31	-							59	235.0
8	12 Mar	979866	42	159	300	300	300	167	300	.43	-	72	-							220	216.0
9	10 Mar	986866	17	38	104	179	300	53	194	.43	-	23	-	0.4	5.0	-	-	1.2	16.0	181	198.0
10	9 Mar	982858	24	73	106	126	128	68	120	.58	-	39	-							210	230.0
11	11 Mar	979846	20	57	104	98	140	60	114	.42	-	25	-							108	192.0
12	9 Mar	978859	55	80	110	170	218	82	166	.58	-	48	-	0.6	25.0	1.4	2.5	1.0	28.0	310	230.0
13	10 Mar	976858	34	142	300	300	300	159	300	.58	-	92	-	1.5	10.0	1.5	13.0	1.1	15.5	310	195.0
14	10 Mar	976861	55	80	110	170	218	82	166	.58	-	48	-							45	237.5
15	10 Mar	979853	18	44	58	58	58	40	58	.45	-	17	-							41	196.0
16	8 Mar	973848	34	62	112	192	226	69	177	.42	-	29	-							130	201.0
17	8 Mar	003873	20	114	192	300	300	109	264	.58	-	63	-							310	197.0
18	7 Mar	998865	43	76	99	126	122	73	116	.42	-	31	-							140	233.0
19	21 Mar	008869	44	192	300	300	300	179	300	.58	.66	104	198							245	214.5
20	21 Mar	007869	24	238	258	250	264	173	257	.58	.66	100	170							180	221.0
21	21 Mar	006868	24	238	258	250	264	173	257	.58	.66	100	170							190	210.5
22	21 Mar		70	248	268	266	271	187	268	.58	.66	113	177							170	234.5

*R/S - rubber to soil.
c - cohesion, psi.
φ - angle of internal friction, deg.
vane - metal to soil.
**Depth below surface, in.
†Soil layer, in.

A

Table A6

Summary of Terrain Data for Linear Terrain Sites
Ft. Knox, Kentucky

RCI 0-6	RCI 6-12	Sheargraph* R/S C	Sheargraph* R/S φ	Sheargraph* Wet R/S C	Sheargraph* Wet R/S φ	Sheargraph* Vane C	Sheargraph* Vane φ	Profile Azimuth deg	Left AA deg	Delta BH ft	Right AA deg	Low BH ft	BW or TW ft	Water Depth ft	Water Velocity ft/sec	Remarks
FK1																
79	-	0.5	11.0	0.7	9.0	1.7	6.0	43	208.0	0.1	204.8	4.10	6.00	0.10	0.1	RI from Areal Site 3.
44	-	2.0	17	1.3	17.5	3.4	25.0	0	198.5	0.6	200.5	3.40	0.25	2.00	2.0	
45	-	0.8	[illegible]	0.4	22.8	2.6	31.4	183	203.0	1.0	211.0	6.00	2.00	0.00	0.0	Soils data from Areal Site 20.
49	-	1.6	13.0	0.3	12.5	4.7	14.0	324	225.0	3.0	209.8	0.50	3.00	0.17	0.2	
42	-							180	215.0	1.0	220.0	3.00	4.00	0.00	0.0	Soil data from Areal Site 45.
50	-							150	195.0	22.0	193.0	48.00	30.00	40.00	6.0	Soil data from Areal Site 27.
46	-							265	196.0	0.5	195.0	39.50	22.00	35.00	6.0	Soil data from Areal Site 27.
55	-							270	235.0	0.1	231.0	4.20	2.00	0.50	0.1	CI from Areal Site 34. RI from Areal Site 18.
63	-							50	206.0	0.5	200.0	9.00	4.00	0.20	0.1	RI from Areal Site 41.
50	-							230	212.0	0.5	217.0	8.00	2.00	2.50	0.1	Soils data from Areal Site 27.
31	-							210	200.0	0.0	202.0	1.20	1.70	0.10	0.1	RI from Areal Site 41.
43	-							260	218.0	1.0	210.0	2.00	2.56	0.30	0.1	RI from Areal Site 41.
FK2																
95	-							255	249.0	0.2	245.0	1.25	1.90	0.00	0.0	RI from Areal Site 6.
140	-							215	198.0	0.1	205.0	1.05	12.00	0.00	0.0	
63	-							273	238.0	1.9	209.0	3.90	6.00	0.00	0.0	RI from Areal Site 6.
60	-							187	190.0	5.5	186.0	0.60	5.00	0.30	0.2	RI from Areal Site 6.
29	64	1.5	[illegible]	1.2	10.0	1.8	8.0	61	195.0	0.2	250.0	6.70	62.00	0.50	0.5	
13	35							225	198.0	1.3	210.0	1.40	12.00	0.50	1.5	
31	-							5?	235.0	1.0	189.0	2.00	14.00	1.00	1.0	
72	-							220	216.0	0.1	195.0	2.70	20.00	1.00	6.0	RI from Linear Site 9.
23	-	0.4	5.0	-	-	1.2	16.0	181	198.0	0.4	188.0	3.20	9.00	0.80	3.7	
39	-							210	230.0	0.6	225.0	1.90	4.00	0.30	0.6	
25	-							108	192.0	1.0	226.0	4.60	45.00	1.50	5.0	
48	-	0.6	25.0	1.4	2.5	1.0	28.0	310	238.0	0.0	238.0	5.30	30.00	0.90	3.7	RI from Linear Site 10.
92	-	1.5	10.0	1.5	13.0	1.1	15.5	310	195.0	0.5	197.0	2.90	12.00	1.00	3.0	RI from Linear Site 10.
48	-							45	237.5	10.0	206.0	6.50	17.00	1.50	4.5	CI from Linear Site 12. RI from Lineal Site 10.
17	-							41	196.0	1.0	215.0	1.00	5.00	0.50	0.6	
29	-							130	201.0	4.4	207.0	3.30	19.00	0.50	4.9	RI from Areal Site 22.
63	-							310	19?.0	0.2	225.0	2.00	10.00	0.10	4.3	RI from areal Site 6.
31	-							140	233.0	0.0	211.0	1.70	6.00	2.00	1.5	RI from Areal Site 22.
104	198							245	214.5	1.1	211.5	4.20	9.00	0.00	0.0	Soils data from Areal Site 5.
100	170							180	221.0	0.0	208.0	2.30	14.00	0.00	0.0	Soils data from Areal Site 26.
100	170							190	210.5	0.1	201.0	2.70	2.00	0.00	0.0	Soils data from Areal Site 26.
113	177							170	234.5	1.0	224.0	2.00	2.00	0.00	0.0	

67<

Table A7

Supplementary Soils Data Summary, Linear Terrain Sites
Ft. Knox, Kentucky

Site No.	1973 Date	Grid Coordinates	Dry Density, lb/ft^3 0-6 in.	Dry Density, lb/ft^3 6-12 in.	Moisture Content, % 0-1/4 in.	Moisture Content, % 0-6 in.	Moisture Content, % 6-12 in.	Soil Classification USCS, 0-6 in. Atterberg Limits LL %	PL %	PI %	Soil Type
					FK1						
1	12 Mar	052991			41.2			42.0	26.2	15.8	CL
2	14 Mar	056008	83.1		46.2	34.6		-	-	-	-
3	15 Mar	061008	75.9		62.9	40.7		-	-	-	CL*
4	15 Mar	059008	90.4		77.1	30.4		-	-	-	-
5	15 Mar	079009	87.0			32.9		-	-	-	-
6	18 Mar	058977	87.6			34.0		-	-	-	CL*
7	18 Mar	071011	86.0			34.4		-	-	-	CL*
8	19 Mar	094019	88.8		70.6	29.6		-	-	-	-
9	19 Mar	087022	91.1			28.1		-	-	-	-
10	18 Mar	057977	86.0			34.4		-	-	-	-
11	19 Mar	085022	91.1			28.1		-	-	-	-
12	19 Mar	080019	91.1			28.1		-	-	-	ML*
					FK2						
1	6 Mar	012855				26.3		-	-	-	-
2	6 Mar	011856	84.4	95.9		28.8		-	-	-	-
3	6 Mar	012866	97.3			21.9		-	-	-	-
4	6 Mar	012867	92.9			25.7	-	-	-	-	-
5	10 Mar	974868			21.2	27.0	-	-	-	-	ML*
6	8 Mar	006865	89.4	94.8	20.1	28.5	24.9	33.3	19.0	14.3	CL
7	11 Mar	984862	91.4		30.2	28.4		-	-	-	-
8	12 Mar	979866				26.3		-	-	-	-
9	10 Mar	986866	91.1		41.5	24.5		-	-	-	-
10	9 Mar	982858	87.8			27.7		-	-	-	-
11	11 Mar	979846	91.9		27.0	25.6		-	-	-	-
12	9 Mar	978859	93.2		44.6	24.8		-	-	-	-
13	10 Mar	976858	93.2		38.3	24.8		-	-	-	-
14	10 Mar	976861				18.7		-	-	-	-
15	10 Mar	979853	91.7			28.6		-	-	-	-
16	8 Mar	973848				27.4		-	-	-	-
17	8 Mar	003873				22.3		-	-	-	-
18	7 Mar	998865	78.5			45.8		31.1	24.0	7.1	ML
19	21 Mar	008869				31.8		-	-	-	-
20	21 Mar	007869	107.5		32.2	24.6		-	-	-	-
21	21 Mar	006868	107.5		32.2	24.6		-	-	-	-
22	21 Mar	004872	-		-	-		-	-	-	-

*Field classification.

Table A8

Terrain Factor Class Ranges Used to Describe Areal Terrains

	Class Numbers													
Terrain Factors	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Surface Type	Fine-Grained Soil	Coarse-Grained Soil	Muskeg											
Surface Strength (CI or RCI)	>280	221-280	161-220	101-160	61-100	41-60	33-40	26-32	17-25	11-16	0-10	13-25	7-12	0-6
Slope (%)	0-2	2.1-5	5.1-10	10.1-20	20.1-60	40.1-60	60.1-70	>70						
Obstacle Approach Angle (deg)	178.6-180	180-181.5	175.6-178.5	181.5-184.5	170.1-175.5	184.5-190	158.1-170	190.1-202	149.1-158	202.1-211	135.1-149	211.1-225	90.0-135	226-270
Obstacle Vertical Magnitude (in.)	0-6	6.1-10	10.1-14	14.1-18.0	18.1-23.6	23.7-33.5	>33.5							
Obstacle Base Width (in.)	>47	36.1-47	24.1-24	12.1-24	0-12									
Obstacle Length (ft)	0-1	1.1-3.3	3.4-6.6	6.7-10.0	10.1-19.9	20.0-492	>492							
Obstacle Spacing (ft)	>197.0	65.7-197.0	36.4-65.6	26.5-36.3	18.3-26.4	13.4-18.2	8.3-13.3	0-8.2						
Obstacle Spacing Type	Random	Linear												
Surface Roughness	0-0.4	0.5-1.5	2.6-3.5	3.6-4.5	4.6-5.5	5.6-6.5	6.6-7.5	>7.6						
Stem Diameter (in.)	>0.1	>1.0	>2.4	>3.9	5.5	7.0	8.7	9.8						
Stem Spacing (ft)	>328	65.6-328	36.4-65.5	26.5-36.3	18.3-26.4	13.4-18.2	8.3-13.3	0-8.2						
Visibility (ft)	>164	79.0-164	39.6-78.9	29.8-39.5	20.0-29.7	15.1-19.9	10.1-15.0	5.1-10.0	0-5.0					

Table A9

Terrain Factor Class Ranges Used to Describe Linear Terrains

	Class Numbers																				
Terrain Factor	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
Surface Type	Fine-Grained Soil	Coarse-Grained Soil	Mus-keg																		
Surface Strength (CI or RCI)	>280	221-280	161-220	101-160	61-100	41-60	33-40	26-32	17-25	11-16	0-10										
Left Approach Angle (deg)	175-180	180.1-185	170.1-175	185.1-190	160.1-170	190.1-200	150.1-160	200.1-210	140.1-150	210.1-220	125.1-140	220.1-235	110.1-125	235.1-250	100.1-110	250.1-260	95.1-100	260.1-265	90-95	265.1-270	NA
Differential Bank Height* or Differential Vertical Magnitude (ft)	0	0.1-3.3	3.4-6.6	6.7-13.1	>13.1	0.1-3.3	3.4-6.6	6.7-13.1	>13.1												
Right Approach Angle (deg)	175-180	180.1-185	170.1-175	185.1-190	160.1-170	190.1-200	150.1-160	200.1-210	140.1-150	210.1-220	125.1-140	220.1-235	110.1-125	235.1-250	100.1-110	250.1-260	95.1-100	260.1-265	90-95	265.1-270	
Low Bank Height or Least Vertical Magnitude (ft)	0-1.6	1.7-3.3	3.4-6.6	6.7-9.8	9.9-13.1	13.2-16.4	16.5-19.7	>19.7													
Base Width or Top Width (ft)	NA	0	0.1-9.8	9.9-19.7	19.8-29.5	29.6-[illegible]	39.5-49.2	49.3-59.0	59.1-68.9	69.0-78.8	78.8-88.6	88.7-98.4	98.5-114.8	114.9-131.2	131.3-147.6	147.7-164.0	164.1-180.4	180.5-196.8	196.9-213.2	213.3-229.6	>229[illegible]
Water Depth (ft)	NA	0	0.1-3.3	3.4-6.6	6.7-16.4	>16.4															
Water Velocity (fps)	NA	0	0.1-3.3	3.4-6.6	6.7-11.4	>11.4															

* Classes 2-5 occur when left bank is higher than right bank; classes 6-9 occur when right bank is higher than left bank.

Table A10

Legend for Areal Terrain Map Units for FK1

USER ID F720 FILE - [illegible] PAGE 0001

MAP UNIT	SURFACE TYPE	DRY STRENGTH	AVG. STRENGTH	WET STRENGTH	TOPO. SLOPE	APPROACH ANGLE	VERT. MAGNITUDE	BASE WIDTH	LENGTH	SPACING	TYPE	SURFACE ROUGHNESS	0	2.5	6	8	14	18	22	25	RECOG. DIST.
	<< SOIL >>					< OBSTACLE >							<< SPACING OF STEMS EQUAL TO OR GREATER THAN GIVEN DIAMETER, CENTIMETERS >>								
1	1.	5.	5.	5.	1.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2
2	1.	5.	5.	5.	1.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4
3	1.	5.	5.	5.	1.	1	1	1	1	1	1	3	1	1	1	1	1	1	1	1	2
4	1.	5.	5.	5.	1.	1	1	1	1	1	1	3	7	7	5	5	3	1	1	1	2
5	1.	5.	5.	5.	1.	10	1	3	2	2	1	2	7	7	7	5	4	3	2	1	3
6	1.	5.	5.	5.	1.	11	3	1	3	2	1	3	8	7	6	6	5	1	1	1	5
7	1.	5.	5.	5.	1.	13	1	5	5	6	1	2	8	8	7	7	5	4	1	1	3
8	1.	5.	5.	5.	1.	13	2	2	3	2	1	2	8	8	7	7	7	5	3	3	2
9	1.	5.	5.	5.	1.	13	6	4	2	2	1	1	7	7	6	6	6	5	5	5	2
10	1.	5.	5.	5.	2.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2
11	1.	5.	5.	5.	2.	1	1	1	1	1	1	1	8	7	6	6	5	1	1	1	2
12	1.	5.	5.	5.	2.	1	1	1	1	1	1	3	1	1	1	1	1	1	1	1	2
13	1.	5.	5.	5.	2.	1	1	1	1	1	1	3	7	7	5	5	3	1	1	1	2
14	1.	5.	5.	5.	2.	11	3	1	3	2	1	3	8	7	6	6	5	1	1	1	5
15	1.	5.	5.	5.	2.	13	1	5	5	2	1	2	8	8	7	7	5	4	1	1	3
16	1.	5.	5.	5.	2.	13	1	5	5	4	1	3	7	7	5	5	3	1	1	1	2
17	1.	5.	5.	5.	2.	13	1	5	5	6	1	2	8	8	7	7	5	4	1	1	3
18	1.	5.	5.	5.	2.	13	6	4	2	2	1	1	7	7	6	6	6	5	5	5	2
19	1.	5.	5.	5.	3.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2
20	1.	5.	5.	5.	3.	1	1	1	1	1	1	3	1	1	1	1	1	1	1	1	2
21	1.	5.	5.	5.	3.	1	1	1	1	1	1	3	7	7	5	5	3	1	1	1	2
22	1.	5.	5.	5.	3.	11	3	1	3	2	1	3	8	7	6	6	5	1	1	1	5
23	1.	5.	5.	5.	3	13	1	5	5	2	1	2	8	8	7	7	5	4	1	1	3
24	1.	5.	5.	5.	3.	13	1	5	5	6	1	2	8	8	7	7	5	4	1	1	3
25	1.	5.	5.	5.	3.	13	2	2	3	2	1	2	8	8	7	7	7	5	3	3	2
26	1.	5.	5.	5.	3.	13	6	4	2	2	1	1	7	7	6	6	6	5	5	5	2
27	1.	5.	5.	5.	4.	11	3	1	3	2	1	3	8	7	6	6	5	1	1	1	5
28	1.	5.	5.	5.	4.	13	1	5	5	6	1	2	8	8	7	7	5	4	1	1	3
29	1.	5.	5.	5.	6.	1	1	1	1	1	1	3	7	7	5	5	3	1	1	1	2
30	1.	5.	5.	5.	6.	13	1	5	5	2	1	2	5	5	5	4	2	1	1	1	3
31	1.	5.	5.	5.	6.	13	1	5	5	6	1	2	8	8	7	7	5	4	1	1	3
32	1.	6.	6.	6.	1.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2
33	1.	6.	6.	6.	1.	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	2
34	1.	6.	6.	6.	1.	1	1	1	1	1	1	2	8	8	6	2	1	1	1	1	2
35	1.	6.	6.	6.	1.	1	1	1	1	1	1	3	8	7	6	6	5	4	4	4	3
36	1.	6.	6.	6.	1.	1	1	1	1	1	1	4	8	8	8	6	3	1	1	1	5
37	1.	6.	6.	6.	1.	8	1	4	6	2	1	3	8	8	7	7	6	5	5	4	2
38	1.	6.	6.	6.	1.	8	1	5	6	2	1	2	1	1	1	1	1	1	1	1	2
39	1.	6.	6.	6.	1.	8	1	5	6	7	1	2	8	8	7	6	5	4	3	3	3
40	1.	6.	6.	6.	1.	8	2	2	4	2	1	2	8	8	6	5	1	1	1	1	3
41	1.	6.	6.	6.	1.	8	2	2	4	2	1	2	8	8	7	6	5	4	3	3	3
42	1.	6.	6.	6.	1.	10	4	3	2	2	1	3	1	1	1	1	1	1	1	1	2
43	1.	6.	6.	6.	1.	13	1	5	5	2	1	2	7	7	7	7	6	6	5	4	2
44	1.	6.	6.	6.	1.	13	1	5	6	2	1	3	7	7	6	5	5	4	3	3	2
45	1.	6.	6.	6.	1.	13	1	5	6	2	1	3	7	7	6	5	5	5	5	5	2
46	1.	6.	6.	6.	1.	13	1	5	6	2	1	3	8	7	6	6	5	4	4	4	2
47	1.	6.	6.	6.	1.	13	1	5	6	2	1	3	8	8	8	6	3	1	1	1	5
48	1.	6.	6.	6.	1.	13	1	5	6	5	1	2	7	7	7	7	6	6	4	4	2
49	1.	6.	6.	6.	1.	13	1	5	6	5	1	2	8	8	8	7	6	5	4	2	2
50	1.	6.	6.	6.	1.	13	3	4	6	1	1	1	7	7	7	7	6	5	4	4	3
51	1.	6.	6.	6.	1.	13	6	4	2	2	1	1	7	7	6	6	6	5	5	5	2
52	1.	6.	6.	6.	1.	13	6	4	2	2	1	1	8	7	6	6	5	4	4	4	3
53	1.	6.	6.	6.	1.	14	3	3	6	1	1	3	5	5	5	5	4	4	4	4	4
54	1.	6.	6.	6.	2.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2
55	1.	6.	6.	6.	2.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	7
56	1.	6.	6.	6.	2.	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	2
57	1.	6.	6.	6.	2.	1	1	1	1	1	1	2	7	7	6	6	5	5	5	4	4
58	1.	6.	6.	6.	2.	1	1	1	1	1	1	2	8	8	6	2	1	1	1	1	2
59	1.	6.	6.	6.	2.	1	1	1	1	1	1	4	8	8	6	5	1	1	1	1	3
60	1.	6.	6.	6.	2.	1	1	1	1	1	1	4	8	8	8	6	3	1	1	1	5
61	1.	6.	6.	6.	2.	8	1	5	6	2	1	3	1	1	1	1	1	1	1	1	2
62	1.	6.	6.	6.	2.	8	1	5	6	7	1	2	8	8	7	6	5	4	3	3	3
63	1.	6.	6.	6.	2.	8	1	5	6	7	1	3	7	7	6	5	5	5	5	5	2
64	1.	6.	6.	6.	2.	8	2	2	4	2	1	2	8	8	7	6	5	4	3	3	3
65	1.	6.	6.	6.	2.	8	2	2	4	2	1	2	8	8	8	6	3	1	1	1	5
66	1.	6.	6.	6.	2.	13	1	5	5	2	1	2	7	7	7	7	6	6	5	4	2
67	1.	6.	6.	6.	2.	13	1	5	6	2	1	3	7	7	6	5	5	4	3	3	2
68	1.	6.	6.	6.	2.	13	1	5	6	2	1	3	7	7	6	5	5	5	5	5	2
69	1.	6.	6.	6.	2.	13	1	5	6	2	1	3	8	8	6	5	1	1	1	1	3
70	1.	6.	6.	6.	2.	13	1	5	6	2	1	3	8	8	8	6	3	1	1	1	5

NOTE: Soil strengths shown on this table for dry and average strength are not valid since only wet season condition was mapped.

(Continued)

Table A10 (Continued)

USER ID F728   FILE = KNOX1   PAGE 0002

71	1.	6.	6.	6,2,13,1,5,6,5,1,2,7,7,7,7,6,6,4,4,2
72	1.	6.	6.	6,2,13,1,5,6,5,1,2,8,8,8,7,6,5,4,2,2
73	1.	6.	6.	6,2,13,1,5,6,5,1,4,8,8,8,6,3,1,1,1,5
74	1.	6.	6.	6,2,13,2,5,5,3,1,4,7,7,7,6,6,6,5,5,3
75	1.	6.	6.	6,2,13,2,4,6,1,1,1,7,7,7,7,6,5,4,4,3
76	1.	6.	6.	6,2,13,6,4,2,2,1,1,7,7,6,6,6,5,5,5,2
77	1.	6.	6.	6,2,13,6,4,2,2,1,1,7,7,6,6,6,5,5,5,7
78	1.	6.	6.	6,2,13,6,4,2,2,1,1,8,7,6,6,5,4,4,4,3
79	1.	6.	6.	6,2,14,3,3,6,1,1,3,5,5,5,5,4,4,4,4,4
80	1.	6.	6.	6,2,14,4,4,2,1,1,1,1,1,1,1,1,1,1,1,2
81	1.	6.	6.	6,2,14,4,4,2,1,1,1,1,1,1,1,1,1,1,1,7
82	1.	6.	6.	6,3, 1,1,1,1,1,1,1,1,1,1,1,1,1,1,7
83	1.	6.	6.	6,3, 1,1,1,1,1,1,2,7,7,6,5,5,5,5,4,4
84	1.	6.	6.	6,3, 1,1,1,1,1,4,8,8,8,6,3,1,1,1,5
85	1.	6.	6.	6,3, 8,1,5,6,7,1,2,8,8,7,6,5,6,3,3
86	1.	6.	6.	6,3, 8,2,2,4,2,1,2,8,8,6,5,1,1,1,3
87	1.	6.	6.	6,3,13,1,5,5,2,1,2,7,7,7,7,6,6,5,4,2
88	1.	6.	6.	6,3,13,1,5,6,2,1,3,7,7,6,5,5,4,3,3,2
89	1.	6.	6.	6,3,13,1,5,6,2,1,3,7,7,6,5,5,5,5,5,2
90	1.	6.	6.	6,3,13,1,5,6,2,1,3,8,8,6,5,1,1,1,1,3
91	1.	6.	6.	6,3,13,1,5,6,2,1,3,8,8,8,6,3,1,1,1,5
92	1.	6.	6.	6,3,13,1,5,6,5,1,2,7,7,7,7,6,6,4,4,2
93	1.	6.	6.	6,3,13,1,5,6,5,1,2,8,8,8,7,6,5,4,2,2
94	1.	6.	6.	6,3,13,2,5,4,2,1,3,7,7,6,5,5,5,5,5,2
95	1.	6.	6.	6,3,13,2,5,5,2,1,2,8,8,8,7,6,5,4,2,2
96	1.	6.	6.	6,3,13,2,5,5,3,1,4,7,7,7,6,6,6,5,5,3
97	1.	6.	6.	6,3,13,6,4,2,2,1,1,7,7,6,6,6,5,5,5,2
98	1.	6.	6.	6,3,13,6,4,2,2,1,1,8,7,6,6,5,4,4,4,3
99	1.	6.	6.	6,3,14,3,3,6,1,1,3,5,5,5,5,4,4,4,4,4
100	1.	6.	6.	6,4, 1,1,1,1,1,1,1,1,1,1,1,1,1,1,7
101	1.	6.	6.	6,4, 1,1,1,1,1,4,8,8,8,6,3,1,1,1,5
102	1.	6.	6.	6,4,13,1,5,6,2,1,3,7,7,6,5,5,5,5,5,2
103	1.	6.	6.	6,4,13,1,5,6,5,1,2,7,7,7,7,6,6,4,4,2
104	1.	6.	6.	6,4,13,1,5,6,5,1,2,8,8,8,7,6,5,4,2,2
105	1.	6.	6.	6,4,13,2,5,5,3,1,4,7,7,7,6,6,6,5,5,3
106	1.	6.	6.	6,4,13,6,4,2,2,1,1,7,7,6,6,6,5,5,5,2
107	1.	6.	6.	6,4,14,4,4,2,1,1,1,1,1,1,1,1,1,1,1,7
108	1.	6.	6.	6,6,13,2,5,5,3,1,4,7,7,7,6,6,6,5,5,3
109	1.	7.	7.	7,1, 1,1,1,1,1,1,1,1,1,1,1,1,1,1,2
110	1.	7.	7.	7,1, 1,1,1,1,1,2,1,1,1,1,1,1,1,1,3
111	1.	7.	7.	7,1, 1,1,1,1,1,2,1,1,1,1,1,1,1,1,6
112	1.	7.	7.	7,1, 1,1,1,1,1,2,8,8,6,2,1,1,1,1,2
113	1.	7.	7.	7,1, 8,1,4,6,2,1,3,8,7,7,6,6,6,6,2
114	1.	7.	7.	7,1, 8,1,4,6,2,1,3,8,6,7,7,6,5,5,4,2
115	1.	7.	7.	7,1, 8,1,5,6,3,1,2,1,1,1,1,1,1,1,2
116	1.	7.	7.	7,1,10,1,3,2,2,1,2,1,1,1,1,1,1,1,2
117	1.	7.	7.	7,1,10,2,3,2,5,1,2,8,7,7,6,6,6,6,6,2
118	1.	7.	7.	7,1,10,2,3,2,5,1,3,1,1,1,1,1,1,1,1,2
119	1.	7.	7.	7,1,13,1,5,5,2,1,2,7,7,7,6,5,4,4,3,2
120	1.	7.	7.	7,1,13,1,5,6,2,1,3,7,7,6,5,5,4,3,3,2
121	1.	7.	7.	7,1,13,2,5,5,2,1,2,8,8,7,7,6,5,5,4,2
122	1.	7.	7.	7,1,13,2,5,6,2,1,3,7,7,6,6,5,6,3,3,2
123	1.	7.	7.	7,1,13,6,4,2,2,1,3,8,7,7,6,6,6,6,6,3
124	1.	7.	7.	7,1,14,3,3,6,1,1,2,5,5,5,5,4,4,4,4,3
125	1.	7.	7.	7,2, 1,1,1,1,1,1,2,1,1,1,1,1,1,1,3
126	1.	7.	7.	7,2, 1,1,1,1,1,1,2,8,7,7,6,4,3,3,3,1
127	1.	7.	7.	7,2, 1,1,1,1,1,1,2,8,8,8,2,1,1,1,1,2
128	1.	7.	7.	7,2, 8,1,1,4,6,2,1,3,8,7,7,6,6,6,6,2
129	1.	7.	7.	7,2, 8,1,1,4,6,2,1,3,8,8,7,7,6,5,5,4,2
130	1.	7.	7.	7,2, 8,1,1,5,6,2,1,3,1,1,1,1,1,1,1,2
131	1.	7.	7.	7,2, 8,1,1,5,6,2,1,2,1,1,1,1,1,1,1,2
132	1.	7.	7.	7,2,10,2,3,2,5,1,2,8,7,7,6,6,6,6,2
133	1.	7.	7.	7,2,10,2,3,2,5,1,3,1,1,1,1,1,1,1,1,2
134	1.	7.	7.	7,2,10,1,3,2,2,1,2,1,1,1,1,1,1,1,1,2
135	1.	7.	7.	7,2,13,1,5,5,2,1,2,7,7,7,6,5,4,4,3,2
136	1.	7.	7.	7,2,13,1,5,5,2,1,3,8,7,7,6,6,6,6,6,3
137	1.	7.	7.	7,2,13,2,5,5,2,1,2,8,8,7,7,6,5,5,4,2
138	1.	7.	7.	7,2,13,6,4,2,2,1,3,8,7,7,6,6,6,6,6,3
139	1.	7.	7.	7,2,14,3,3,6,1,1,2,5,5,5,5,4,4,4,4,3
140	1.	7.	7.	7,3, 1,1,1,1,1,1,2,1,1,1,1,1,1,1,3
141	1.	7.	7.	7,3, 1,1,1,1,1,1,2,8,7,7,5,4,3,3,3,3
142	1.	7.	7.	7,3,13,1,5,5,2,1,2,7,7,7,6,5,4,4,3,2
143	1.	7.	7.	7,3,13,1,5,5,2,1,3,8,7,7,6,6,6,6,6,3
144	1.	7.	7.	7,3,13,6,4,2,2,1,3,8,7,7,6,6,6,6,6,3
145	1.	7.	7.	7,4, 1,1,1,1,1,1,2,1,1,1,1,1,1,1,3
146	1.	7.	7.	7,4,13,1,5,5,2,1,3,8,7,7,6,6,6,6,6,3
147	1.	7.	7.	7,6,13,6,4,2,2,1,3,8,7,7,6,6,6,6,6,3
148	1.	8.	8.	8,1, 1,1,1,1,1,1,2,1,1,1,1,1,1,1,2
149	1.	8.	8.	8,1, 1,1,1,1,1,1,2,5,5,5,5,4,4,4,4,2
150	1.	8.	8.	8,1, 1,1,1,1,1,1,2,7,7,8,5,6,2,2,1,2
151	1.	8.	8.	8,1,13,1,5,5,2,1,3,7,7,7,6,5,4,4,3,2
152	1.	8.	8.	8,1,13,1,5,5,4,1,3,7,7,6,5,4,2,2,1,2
153	1.	8.	8.	8,2, 1,1,1,1,1,1,2,1,1,1,1,1,1,1,2
154	1.	8.	8.	8,2,10,2,2,2,2,1,3,7,6,6,5,4,3,2,1,3
155	1.	8.	8.	8,2,10,2,2,2,2,1,5,7,6,6,5,4,3,2,1,3
156	1.	8.	8.	8,2,13,1,5,5,2,1,3,7,7,7,6,5,4,4,3,2
157	1.	8.	8.	8,2,13,1,5,5,2,1,3,8,7,7,6,6,6,6,6,3
158	1.	8.	8.	8,2,13,1,5,5,4,1,3,7,7,6,5,4,2,2,1,2
159	1.	8.	8.	8,2,14,2,1,3,2,1,5,7,7,6,5,3,3,1,1,3
160	1.	8.	8.	8,3, 1,1,1,1,1,1,2,1,1,1,1,1,1,1,2
161	1.	8.	8.	8,3, 1,1,1,1,1,1,2,1,1,1,1,1,1,1,3
162	1.	8.	8.	8,3,10,2,2,2,2,1,3,7,6,6,5,4,3,2,1,3
163	1.	8.	8.	8,3,13,1,5,5,2,1,3,7,7,7,6,5,4,4,3,2
164	1.	8.	8.	8,3,13,1,5,5,4,1,3,7,7,6,5,4,2,2,1,2
165	1.	8.	8.	8,3,14,2,1,3,2,1,5,7,7,6,5,3,3,1,1,3
166	1.	8.	8.	8,4, 1,1,1,1,1,1,2,1,1,1,1,1,1,1,2
167	1.	8.	8.	8,4,10,2,2,2,2,1,3,7,6,6,5,4,3,2,1,3
168	1.	8.	8.	8,4,10,2,2,2,2,1,5,7,6,6,5,4,3,2,1,3
169	1.	8.	8.	8,4,13,1,5,5,2,1,3,7,7,7,6,5,4,4,3,2
170	1.	8.	8.	8,4,13,1,5,5,4,1,3,7,7,6,5,4,2,2,1,2

(Continued)

2 of 3 Sheets

Table A10 (Concluded)

171	1.	0.	0.	0.4.14.2.1.3.2.1.5.7.7.6.5.3.3.1.1.3
172	1.	0.	0.	0.1. 1.1.1.1.1.1.1.0.0.6.5.1.1.1.1.3
173	1.	0.	0.	0.1. 1.1.1.1.1.1.2.1.1.1.1.1.1.1.1.2
174	1.	0.	0.	0.1. 1.1.1.1.1.1.2.1.1.1.1.1.1.1.1.3
175	1.	0.	0.	0.1. 1.1.1.1.1.1.2.7.7.7.7.6.6.5.6.2
176	1.	0.	0.	0.1. 1.1.1.1.1.1.3.5.5.5.4.2.1.1.1.2
177	1.	0.	0.	0.1. 1.1.1.1.1.1.3.7.7.6.5.4.2.2.1.2
178	1.	0.	0.	0.1. 1.1.1.1.1.1.3.7.7.7.5.4.3.2.1.3
179	1.	0.	0.	0.1. 1.1.1.1.1.1.3.6.6.7.6.1.1.1.1.3
180	1.	0.	0.	0.1. 6.2.2.4.2.1.3.6.6.6.5.1.1.1.1.3
181	1.	0.	0.	0.2. 1.1.1.1.1.1.2.1.1.1.1.1.1.1.1.2
182	1.	0.	0.	0.2. 1.1.1.1.1.1.2.1.1.1.1.1.1.1.1.3
183	1.	0.	0.	0.2. 1.1.1.1.1.1.2.1.1.1.1.1.1.1.1.7
184	1.	0.	0.	0.2. 1.1.1.1.7.1.2.1.1.1.1.1.1.1.1.2
185	1.	0.	0.	0.2. 1.1.1.1.1.1.3.7.7.6.6.6.5.1.1.2
186	1.	0.	0.	0.2. 1.1.1.1.1.1.3.7.7.7.5.6.5.5.1.3
187	1.	0.	0.	0.2. 1.1.6.6.1.1.1.7.7.7.7.6.5.6.6.3
188	1.	0.	0.	0.2. 1.1.1.1.1.1.2.1.1.1.1.1.1.1.1.3
189	1.	0.	0.	0.2. 1.1.1.1.1.1.3.6.6.6.6.5.1.1.1.3
190	1.	0.	0.	0.2. 1.1.1.1.1.1.3.7.7.6.6.6.5.1.1.3
191	1.	0.	0.	0.2. 1.1.1.1.1.1.3.7.7.7.6.6.5.5.1.3
192	1.	10.	10.	10.1. 1.1.1.1.1.1.2.1.1.1.1.1.1.1.1.2

Table A11

Legend for Areal Terrain Map Units for FKJ

USER ID F720 FILE = RNO_2 PAGE 0001

<<<<<<<<<<<<<<< FACTOR COMPLEX >>>>>>>>>>>>>>>

<< SOIL >> < OBSTACLE > << SPACING OF STEMS EQUAL TO OR GREATER THAN GIVEN DIAMETER, CENTIMETERS >>

MAP UNIT	SURFACE TYPE	DRY STRENGTH	AVG. STRENGTH	WET STRENGTH, TOPO. SLOPE, APPROACH ANGLE, VERT. MAGNITUDE, WIDTH, LENGTH, SPACING, SURFACE ROUGHNESS, STEM SPACING (2.5, 6, 8, 10, 14, 18, 22, 25), REC. NO. DIST.
1	1.	2.	2.	2.2.12.6.3.6.5.1.5.1.1.1.1.1.1.1.2
2	1.	2.	2.	2.2.13.1.5.5.3.1.3.8.8.8.8.7.7.7.8.3
3	1.	2.	2.	2.3.12.6.3.6.5.1.5.1.1.1.1.1.1.1.2
4	1.	2.	2.	2.3.13.2.5.6.2.1.3.7.7.8.8.8.8.5.3
5	1.	3.	3.	3.2.10.2.1.6.2.1.4.1.1.1.1.1.1.1.2
6	1.	3.	3.	3.2.10.2.1.6.2.1.4.1.1.1.1.1.1.1.5
7	1.	3.	3.	3.2.12.4.1.5.2.2.3.1.1.1.1.1.1.1.2
8	1.	3.	3.	3.2.12.4.4.6.2.1.4.1.1.1.1.1.1.1.2
9	1.	3.	3.	3.3.11.7.1.6.3.1.3.1.1.1.1.1.1.1.2
10	1.	3.	3.	3.3.11.7.1.6.3.1.3.4.4.4.4.4.4.4.2
11	1.	3.	3.	3.3.12.4.1.5.2.2.3.1.1.1.1.1.1.1.2
12	1.	3.	3.	3.3.12.4.4.6.2.1.4.1.1.1.1.1.1.1.2
13	1.	3.	3.	3.3.13.2.5.6.2.1.3.8.7.6.6.3.1.1.2
14	1.	4.	4.	4.1. 1.1.1.1.1.1.2.1.1.1.1.1.1.1.4
15	1.	4.	4.	4.1.10.2.1.6.2.1.4.1.1.1.1.1.1.1.4
16	1.	4.	4.	4.1.10.3.3.6.2.1.4.1.1.1.1.1.1.1.4
17	1.	4.	4.	4.1.13.2.5.6.2.1.4.5.5.4.4.4.4.4.2
18	1.	4.	4.	4.2. 1.1.1.1.1.1.2.1.1.1.1.1.1.1.4
19	1.	4.	4.	4.2. 1.1.1.1.1.1.3.1.1.1.1.1.1.1.3
20	1.	4.	4.	4.2.10.1.4.6.2.1.2.1.1.1.1.1.1.1.3
21	1.	4.	4.	4.2.10.2.1.6.2.1.4.1.1.1.1.1.1.1.4
22	1.	4.	4.	4.2.10.3.3.6.2.1.4.1.1.1.1.1.1.1.4
23	1.	4.	4.	4.2.11.7.1.6.3.1.3.1.1.1.1.1.1.1.2
24	1.	4.	4.	4.2.12.4.1.5.2.2.3.1.1.1.1.1.1.1.2
25	1.	4.	4.	4.2.12.4.1.6.1.1.3.6.6.6.5.5.4.4.5
26	1.	4.	4.	4.2.12.4.1.6.1.2.2.1.1.1.1.1.1.1.4
27	1.	4.	4.	4.2.12.4.1.6.1.2.3.1.1.1.1.1.1.1.2
28	1.	4.	4.	4.2.12.4.1.6.1.2.3.1.1.1.1.1.1.1.5
29	1.	4.	4.	4.2.12.4.4.6.2.1.4.1.1.1.1.1.1.1.2
30	1.	4.	4.	4.2.12.4.4.6.2.1.4.1.1.1.1.1.1.1.2
31	1.	4.	4.	4.2.13.2.5.2.2.1.3.7.7.6.5.6.6.4.2
32	1.	4.	4.	4.2.13.2.5.6.2.1.3.7.7.5.5.5.5.5.3
33	1.	4.	4.	4.2.13.2.5.6.2.1.3.8.7.6.6.3.1.1.2
34	1.	4.	4.	4.2.13.2.5.6.2.1.4.1.1.1.1.1.1.1.2
35	1.	4.	4.	4.2.13.2.5.6.2.1.4.5.5.4.4.4.4.4.2
36	1.	4.	4.	4.2.13.2.5.6.2.1.4.7.7.6.5.4.3.3.4
37	1.	4.	4.	4.2.13.3.4.5.3.1.3.8.7.6.5.5.5.5.3
38	1.	4.	4.	4.2.14.4.1.6.3.1.3.1.1.1.1.1.1.1.3
39	1.	4.	4.	4.2.14.4.1.6.3.1.3.1.1.1.1.1.1.1.4
40	1.	4.	4.	4.2.14.4.1.6.3.1.5.1.1.1.1.1.1.1.2
41	1.	4.	4.	4.2. 1.1.1.1.1.1.2.1.1.1.1.1.1.1.3
42	1.	4.	4.	4.3. 6.2.2.7.3.2.2.4.4.4.4.4.4.4.3
43	1.	4.	4.	4.3.10.1.4.6.2.1.2.1.1.1.1.1.1.1.3
44	1.	4.	4.	4.3.10.4.1.3.4.1.3.6.6.6.6.6.5.5.2
45	1.	4.	4.	4.3.11.7.1.6.3.1.3.1.1.1.1.1.1.1.2
46	1.	4.	4.	4.3.12.4.1.5.2.2.3.1.1.1.1.1.1.1.2
47	1.	4.	4.	4.3.12.4.4.6.2.1.3.1.1.1.1.1.1.1.2
48	1.	4.	4.	4.3.13.2.5.2.2.1.3.7.7.6.5.5.5.4.2
49	1.	4.	4.	4.3.13.2.5.6.2.1.2.7.7.6.5.4.3.3.4
50	1.	4.	4.	4.3.13.2.5.6.2.1.2.7.7.6.5.4.3.3.5
51	1.	4.	4.	4.3.13.2.5.6.2.1.3.8.7.6.6.3.1.1.2
52	1.	4.	4.	4.3.13.3.4.6.2.1.2.7.7.6.5.4.3.3.2
53	1.	4.	4.	4.3.14.4.1.6.3.1.3.1.1.1.1.1.1.1.3
54	1.	4.	4.	4.3.14.4.1.6.3.1.3.1.1.1.1.1.1.1.4
55	1.	4.	4.	4.3.14.4.1.6.3.1.5.1.1.1.1.1.1.1.2
56	1.	4.	4.	4.4.10.1.4.6.2.1.2.1.1.1.1.1.1.1.3
57	1.	4.	4.	4.4.13.2.4.6.1.1.3.8.8.8.6.1.1.1.8
58	1.	4.	4.	4.4.13.2.5.2.2.1.3.7.7.6.5.5.5.4.2
59	1.	4.	4.	4.4.13.2.5.6.2.1.2.5.5.4.4.4.4.4.2
60	1.	4.	4.	4.4.14.4.1.6.3.1.3.1.1.1.1.1.1.1.3
61	1.	5.	5.	5.2. 1.1.1.1.1.1.2.1.1.1.1.1.1.1.2
62	1.	5.	5.	5.2. 1.1.1.1.1.1.2.7.7.6.6.6.6.6.2
63	1.	5.	5.	5.2. 1.1.1.1.1.1.2.8.7.6.6.4.1.1.3
64	1.	5.	5.	5.2. 1.1.1.1.1.1.2.8.8.7.6.5.1.1.2
65	1.	5.	5.	5.2. 1.1.1.1.1.1.2.8.8.7.6.5.1.1.3
66	1.	5.	5.	5.2.10.3.3.6.2.1.4.1.1.1.1.1.1.1.3
67	1.	5.	5.	5.2.10.3.3.6.2.1.4.1.1.1.1.1.1.1.4
68	1.	5.	5.	5.2.12.3.4.6.2.1.3.1.1.1.1.1.1.1.2
69	1.	5.	5.	5.2.12.3.4.6.2.1.3.1.1.1.1.1.1.1.3
70	1.	5.	5.	5.2.12.4.1.6.1.2.2.1.1.1.1.1.1.1.3

NOTE: Soil strengths shown on this table for dry and average strength are not valid since only wet season condition was mapped.

1 of 3 sheets

(Continued)

Table A11 (Continued)

USER IC F778   FILE - KNOX2   PAGE 0002

71	1.	5.	5.	5,2,12,4,1,6,1,2,3,1,1,1,1,1,1,1,1,2
72	1.	5.	5.	5,2,12,4,3,2,2,1,3,6,7,7,6,5,4,4,4,2
73	1.	5.	5.	5,2,12,4,3,6,2,1,3,6,7,7,7,6,6,6,6,4
74	1.	5.	5.	5,2,12,6,3,6,5,1,2,1,1,1,1,1,1,1,1,2
75	1.	5.	5.	5,2,12,6,3,6,5,1,5,1,1,1,1,1,1,1,1,2
76	1.	5.	5.	5,2,13,1,5,5,3,1,3,6,6,6,6,7,7,7,6,3
77	1.	5.	5.	5,2,13,2,4,6,1,1,3,6,6,6,6,1,1,1,1,6
78	1.	5.	5.	5,2,13,2,5,2,2,1,3,7,7,6,5,5,5,5,4,2
79	1.	5.	5.	5,2,13,2,5,6,2,1,2,7,7,6,5,4,3,3,3,3
80	1.	5.	5.	5,2,13,2,5,6,2,1,3,1,1,1,1,1,1,1,1,3
81	1.	5.	5.	5,2,13,2,5,6,2,1,3,7,7,5,5,5,5,5,5,3
82	1.	5.	5.	5,2,13,2,5,6,3,1,2,1,1,1,1,1,1,1,1,2
83	1.	5.	5.	5,2,13,2,5,6,3,1,3,1,1,1,1,1,1,1,1,2
84	1.	5.	5.	5,2,13,2,5,6,3,1,3,7,7,6,6,5,5,5,5,2
85	1.	5.	5.	5,2,13,2,5,6,3,1,3,6,6,6,6,6,7,7,6,2
86	1.	5.	5.	5,2,13,3,4,5,3,1,3,1,1,1,1,1,1,1,1,2
87	1.	5.	5.	5,2,13,3,4,5,3,1,3,6,7,6,5,5,5,5,5,3
88	1.	5.	5.	5,2,14,2,4,6,2,2,3,1,1,1,1,1,1,1,1,3
89	1.	5.	5.	5,2,14,2,4,6,2,2,4,1,1,1,1,1,1,1,1,3
90	1.	5.	5.	5,2,14,4,1,6,3,1,3,1,1,1,1,1,1,1,1,2
91	1.	5.	5.	5,3, 1,1,1,1,1,1,2,1,1,1,1,1,1,1,1,2
92	1.	5.	5.	5,3, 1,1,1,1,1,1,2,1,1,1,1,1,1,1,1,3
93	1.	5.	5.	5,3, 1,1,1,1,1,1,2,7,7,6,6,6,6,6,6,2
94	1.	5.	5.	5,3, 1,1,1,1,1,1,2,6,7,6,6,4,[illegible],1,3
95	1.	5.	5.	5,3, 1,1,1,1,1,1,2,6,6,7,6,5,1,1,1,2
96	1.	5.	5.	5,3, 1,1,1,1,1,1,2,6,6,7,6,5,1,1,1,3
97	1.	5.	5.	5,3, 1,1,1,4,3,1,2,1,1,1,1,1,1,1,1,2
98	1.	5.	5.	5,3, 6,1,3,6,2,1,2,7,7,6,6,5,5,5,4,2
99	1.	5.	5.	5,3,12,3,4,6,2,1,3,1,1,1,1,1,1,1,1,2
100	1.	5.	5.	5,3,12,3,4,6,2,1,3,1,1,1,1,1,1,1,1,3
101	1.	5.	5.	5,3,12,4,1,6,1,2,2,1,1,1,1,1,1,1,1,3
102	1.	5.	5.	5,3,12,4,1,6,1,2,3,1,1,1,1,1,1,1,1,2
103	1.	5.	5.	5,3,12,4,3,2,2,1,3,6,7,7,6,5,4,4,4,2
104	1.	5.	5.	5,3,12,6,3,6,5,1,2,1,1,1,1,1,1,1,1,2
105	1.	5.	5.	5,3,12,6,3,6,5,1,5,1,1,1,1,1,1,1,1,2
106	1.	5.	5.	5,3,12,6,3,6,5,1,5,6,6,7,6,5,1,1,1,2
107	1.	5.	5.	5,3,13,1,5,5,3,1,3,6,6,6,6,7,7,7,6,3
108	1.	5.	5.	5,3,13,2,5,2,2,1,3,7,7,6,5,5,5,5,4,2
109	1.	5.	5.	5,3,13,2,5,6,1,1,3,7,7,7,6,6,5,5,4,2
110	1.	5.	5.	5,3,13,2,5,6,2,1,3,7,7,5,5,5,5,5,5,3
111	1.	5.	5.	5,3,13,2,5,6,2,1,3,7,7,6,5,5,4,4,4,2
112	1.	5.	5.	5,3,13,2,5,6,2,1,4,7,7,6,5,4,3,3,3,3
113	1.	5.	5.	5,3,13,2,5,6,3,1,2,1,1,1,1,1,1,1,1,2
114	1.	5.	5.	5,3,13,2,5,6,3,1,3,1,1,1,1,1,1,1,1,2
115	1.	5.	5.	5,3,13,3,4,5,3,1,3,6,7,6,5,5,5,5,5,3
116	1.	5.	5.	5,3,13,3,4,6,2,1,2,7,7,6,5,4,3,3,3,2
117	1.	5.	5.	5,3,14,2,4,6,2,2,3,1,1,1,1,1,1,1,1,3
118	1.	5.	5.	5,3,14,2,4,6,2,2,4,1,1,1,1,1,1,1,1,2
119	1.	5.	5.	5,3,14,2,4,6,2,2,4,1,1,1,1,1,1,1,1,3
120	1.	5.	5.	5,3,14,4,1,6,3,1,3,1,1,1,1,1,1,1,1,2
121	1.	5.	5.	5,3,14,4,1,6,3,1,5,1,1,1,1,1,1,1,1,2
122	1.	5.	5.	5,4, 1,1,1,1,1,1,2,6,6,7,6,5,1,1,1,3
123	1.	5.	5.	5,4,12,3,4,6,2,1,3,1,1,1,1,1,1,1,1,3
124	1.	5.	5.	5,4,12,6,3,6,5,1,5,1,1,1,1,1,1,1,1,2
125	1.	5.	5.	[illegible]
126	1.	5.	5.	5,6,13,2,5,2,1,1,3,7,7,6,5,5,5,5,4,2
127	1.	5.	5.	5,4,13,2,5,5,1,1,3,7,7,7,6,6,5,5,4,2
128	1.	5.	5.	[illegible]
129	1.	5.	5.	[illegible]
130	1.	6.	6.	6,2, 1,1,1,1,1,1,2,6,6,6,7,6,4,1,1,3
131	1.	6.	6.	6,2,12,4,1,6,1,1,3,6,6,6,5,5,4,4,4,2
132	1.	6.	6.	6,2,12,4,1,6,1,2,3,1,1,1,1,1,1,1,1,2
133	1.	6.	6.	6,2,12,6,3,6,5,1,3,1,1,1,1,1,1,1,1,2
134	1.	6.	6.	6,2,13,2,5,2,2,1,3,7,7,6,5,5,5,5,4,2
135	1.	6.	6.	6,2,13,2,5,6,2,1,3,7,7,6,6,5,5,5,4,2
136	1.	6.	6.	6,2,13,2,5,6,2,1,3,7,7,6,6,6,6,6,6,2
137	1.	6.	6.	6,2,13,2,5,6,3,1,3,1,1,1,1,1,1,1,1,2
138	1.	6.	6.	6,2,14,4,1,6,3,1,3,1,1,1,1,1,1,1,1,2
139	1.	6.	6.	6,3, 6,1,3,6,2,1,2,7,7,1,6,6,5,5,5,4
140	1.	6.	6.	[illegible]
141	1.	6.	6.	[illegible]
142	1.	6.	6.	6,3,12,4,1,6,1,1,3,6,6,6,5,5,4,4,4,2
143	1.	6.	6.	[illegible]
144	1.	6.	6.	6,3,13,2,5,6,2,1,3,7,7,6,5,5,4,4,4,2
145	1.	6.	6.	6,3,13,2,5,6,2,1,3,7,7,6,6,5,5,5,4,2
146	1.	6.	6.	6,3,13,2,5,6,2,1,3,7,7,6,6,6,6,6,6,2
147	1.	6.	6.	[illegible]
148	1.	6.	6.	[illegible]
149	1.	6.	6.	6,4,13,2,5,6,2,1,3,7,7,6,6,6,6,6,6,2
150	1.	6.	6.	6,4,13,2,5,6,3,1,3,1,1,1,1,1,1,1,1,2
151	1.	7.	7.	7,2, 1,1,1,1,1,1,3,1,1,1,1,1,1,1,1,2
152	1.	7.	7.	7,2, 1,1,1,1,1,1,3,6,7,6,5,5,5,5,5,2
153	1.	7.	7.	7,2,12,4,1,6,1,2,3,1,1,1,1,1,1,1,1,2
154	1.	7.	7.	7,2,12,4,3,6,2,1,3,6,7,7,7,6,6,6,6,4
155	1.	7.	7.	7,2,13,2,5,2,2,1,3,7,7,6,5,5,5,5,4,2
156	1.	7.	7.	7,2,13,2,5,5,1,1,3,1,1,1,1,1,1,1,1,2
157	1.	7.	7.	7,2,13,2,5,5,1,1,3,7,7,7,6,6,5,5,4,2
158	1.	7.	7.	[illegible]
159	1.	7.	7.	[illegible]
160	1.	7.	7.	7,2,13,2,5,6,2,1,3,7,7,6,6,5,5,5,4,2
161	1.	7.	7.	7,2,13,2,5,6,3,1,2,1,1,1,1,1,1,1,1,3
162	1.	7.	7.	7,2,13,2,5,6,3,1,3,1,1,1,1,1,1,1,1,2
163	1.	7.	7.	7,2,13,2,5,6,3,1,3,7,7,6,5,5,5,5,4,2
164	1.	7.	7.	7,2,13,2,5,6,3,1,3,6,6,6,6,7,7,7,6,2
165	1.	7.	7.	7,2,13,2,5,6,3,1,3,6,6,6,6,6,7,7,6,3
166	1.	7.	7.	7,2,13,3,4,5,3,1,3,6,7,6,5,5,5,5,5,3
167	1.	7.	7.	7,2,13,5,4,2,2,1,3,7,7,6,6,5,5,5,5,2
168	1.	7.	7.	7,2,14,4,1,6,3,1,3,1,1,1,1,1,1,1,1,2
169	1.	7.	7.	7,2,14,4,1,6,3,1,3,1,1,1,1,1,1,1,1,2
170	1.	7.	7.	7,3, 1,1,1,1,1,1,3,1,1,1,1,1,1,1,1,2

(Continued)

2 of 3 sheets

Table A11 (Concluded)

171	1,	7,	7,	7,3, [illegible]
172	1,	7,	7,	7,3, [illegible]
173	1,	7,	7,	7,3, [illegible]
174	1,	7,	7,	7,3, [illegible]
175	1,	7,	7,	7, [illegible]
176	1,	7,	7,	7,3, [illegible]
177	1,	7,	7,	7,3, [illegible]
178	1,	7,	7,	7,3, [illegible]
179	1,	7,	7,	7,3, [illegible]
180	1,	7,	7,	7,3, [illegible]
181	1,	7,	7,	7,3, [illegible]
182	1,	7,	7,	7,3, [illegible]
183	1,	7,	7,	7, [illegible]
184	1,	7,	7,	7, [illegible]
185	1,	7,	7,	7, [illegible]
186	1,	7,	7,	7, [illegible]
187	1,	7,	7,	7, [illegible]
188	1,	0,	0,	0, [illegible]
189	1,	0,	0,	0, [illegible]
190	1,	0,	0,	0, [illegible]
191	1,	0,	0,	0, [illegible]
192	1,	0,	0,	0, [illegible]
193	1,	0,	0,	0, [illegible]

Table A12

Legend for Linear Terrain Units for FK1

USER ID F727   FILE - LINKN1   PAGE 0001

LINEAR TERRAIN UNITS

<<<<<<<< FACTOR COMPLEX >>>>>>>>

MAP UNIT	SURFACE TYPE	DRY STRENGTH	AVG STRENGTH	WET STRENGTH	LT APPROACH ANGLE	DELTA BK HGT OR VERT HAGT	RT APPROACH ANGLE	LOW BK HGT OR LST VERT HAGT	BASE WIDTH OR TOP WIDTH	WATER DEPTH	[redacted]	MAXIMUM VELOCITY
1	1.	1.	1.	1.	10.	1.	10.	1.	5.	1.	[redacted]	.1
2	1.	1.	1.	1.	12.	1.	12.	1.	5.	1.	[redacted]	.1
3	1.	1.	1.	1.	14.	1.	14.	1.	6.	1.	[redacted]	.1
4	1.	5.	5.	5.	8.	2.	6.	4.	3.	3.	[redacted]	.3
5	1.	5.	5.	5.	8.	2.	8.	3.	3.	3.	[redacted]	.3
6	1.	6.	6.	6.	8.	2.	6.	8.	5.	6.	[redacted]	.4
7	1.	6.	6.	6.	6.	6.	8.	3.	3.	3.	[redacted]	.3
8	1.	6.	6.	6.	6.	9.	6.	8.	6.	6.	[redacted]	.4
9	1.	6.	6.	6.	8.	2.	10.	3.	3.	2.	[redacted]	.2
10	1.	6.	6.	6.	10.	2.	8.	2.	3.	3.	[redacted]	.3
11	1.	6.	6.	6.	10.	2.	10.	2.	3.	2.	[redacted]	.2
12	1.	6.	6.	6.	10.	2.	10.	4.	3.	3.	[redacted]	.3
13	1.	6.	6.	6.	12.	3.	8.	1.	3.	3.	[redacted]	.3
14	1.	6.	6.	6.	12.	2.	12.	3.	3.	3.	[redacted]	.3
15	1.	8.	8.	8.	8.	1.	8.	1.	3.	3.	[redacted]	.3
16	2.	1.	1.	1.	10.	1.	10.	1.	5.	1.	[redacted]	.1
17	2.	1.	1.	1.	14.	1.	14.	2.	6.	1.	[redacted]	.1

NOTE: Soil strengths shown on this table for dry and average strengths are not valid as only wet season condition was mapped.

77<

Table A13

Legend for Linear Terrain Units for FK2

USER ID F727 FILE - LINFK2 PAGE 0001

LINEAR TERRAIN UNITS

<<<<<<<< FACTOR COMPLEX >>>>>>>>

MAP UNIT	SURFACE TYPE	DRY STRENGTH	AVG STRENGTH	WET STRENGTH	LT APPROACH ANGLE	DELTA BK HGT OR VERT HGT	RT APPROACH ANGLE	LOW BK HGT OR LST VERT HGT	BASE WIDTH OR TOP WIDTH	WATER DEPTH		MAXIMUM VELOCITY
1	1.	1.	1.	1.	7.	1.	7.	1.	5.	1.	.	.1
2	1.	1.	1.	1.	9.	1.	9.	1.	6.	1.	.	.1
3	1.	1.	1.	1.	11.	1.	11.	1.	5.	1.	.	.1
4	1.	1.	1.	1.	11.	1.	11.	1.	6.	1.	.	.1
5	1.	4.	4.	4.	6.	2.	8.	1.	4.	2.	.	.2
6	1.	4.	4.	4.	10.	6.	10.	3.	3.	2.	.	.2
7	1.	4.	4.	4.	12.	2.	12.	2.	3.	2.	.	.2
8	1.	5.	5.	5.	6.	2.	6.	2.	4.	3.	.	.3
9	1.	5.	5.	5.	6.	2.	12.	2.	4.	3.	.	.3
10	1.	5.	5.	5.	10.	2.	6.	2.	5.	1.	.	.4
11	1.	5.	5.	5.	10.	2.	8.	2.	3.	2.	.	.2
12	1.	5.	5.	5.	12.	1.	8.	2.	4.	2.	.	.2
13	1.	5.	5.	5.	14.	2.	8.	3.	3.	2.	.	.2

<<<<<<<< FACTOR COMPLEX >>>>>>>>

MAP UNIT	SURFACE TYPE	DRY STRENGTH	AVG STRENGTH	WET STRENGTH	LT APPROACH ANGLE	DELTA BK HGT OR VERT HGT	RT APPROACH ANGLE	LOW BK HGT OR LST VERT HGT	BASE WIDTH OR TOP WIDTH	WATER DEPTH		MAXIMUM VELOCITY
14	1.	5.	5.	5.	14.	2.	14.	1.	3.	2.	.	.2
15	1.	6.	6.	6.	4.	3.	4.	1.	3.	3.	.	.3
16	1.	6.	6.	6.	14.	1.	14.	1.	6.	3.	.	.4
17	1.	6.	6.	6.	14.	9.	8.	3.	4.	3.	.	.4
18	1.	7.	7.	7.	12.	2.	12.	2.	3.	3.	.	.3
19	1.	8.	8.	8.	6.	2.	14.	4.	9.	3.	.	.4
20	1.	8.	8.	8.	8.	7.	8.	2.	4.	3.	.	.4
21	1.	8.	8.	8.	12.	1.	10.	2.	3.	3.	.	.3
22	1.	8.	8.	8.	12.	6.	4.	2.	4.	3.	.	.4
23	1.	9.	9.	9.	6.	2.	4.	2.	3.	3.	.	.4
24	1.	9.	9.	9.	6.	2.	10.	1.	3.	3.	.	.3
25	1.	9.	9.	9.	6.	6.	12.	3.	7.	3.	.	.4
26	1.	10.	10.	10.	6.	2.	8.	1.	4.	3.	.	.4

NOTE: Soil strengths shown on this table for dry and average strengths are not valid since only wet season condition was mapped

Table A14

Legend for West German Areal Terrain Units (Surface Roughness Revised August 1973)

USER ID F727 FILE - GERMNY PAGE 0001

<<<<<<<<<<<<<<< FACTOR COMPLEX >>>>>>>>>>>>>>

MAP UNIT	<< SOIL >> SURFACE TYPE	DRY STRENGTH	AVG. STRENGTH	WET STRENGTH	TOPO. SLOPE	< OBSTACLE > APPROACH ANGLE	VERT. MAGNITUDE	BASE WIDTH	LENGTH	SPACING	TYPES	SURFACE ROUGHNESS	<< SPACING OF STEMS EQUAL TO OR GREATER THAN GIVEN DIAMETER, CENTIMETERS >> 0	2.5	6	10	14	18	22	25	REC. DIST.
1	1.	1.	1.	4.	2.	3.	1.	3.	6.	1.	1.	2.	9.	2.	2.	2.	2.	2.	2.	2.	2
2	1.	1.	1.	4.	2.	3.	1.	5.	5.	1.	1.	2.	8.	2.	2.	2.	2.	2.	2.	2.	2
3	1.	1.	1.	4.	2.	3.	1.	5.	6.	1.	1.	2.	8.	2.	2.	2.	3.	2.	2.	2.	2
4	1.	1.	1.	4.	2.	3.	1.	5.	8.	1.	1.	2.	8.	7.	7.	7.	6.	6.	5.	5.	4
5	1.	1.	1.	4.	2.	3.	1.	5.	6.	1.	1.	2.	8.	8.	2.	2.	2.	2.	2.	2.	7
6	1.	1.	1.	4.	2.	3.	1.	5.	6.	2.	1.	2.	8.	2.	2.	2.	2.	2.	2.	2.	2
7	1.	1.	1.	4.	2.	5.	1.	3.	5.	1.	1.	2.	8.	7.	7.	7.	6.	6.	5.	5.	4
8	1.	1.	1.	4.	2.	5.	1.	3.	6.	1.	1.	2.	8.	8.	2.	2.	2.	2.	2.	2.	7
9	1.	1.	1.	4.	2.	5.	1.	3.	6.	2.	1.	2.	8.	3.	3.	3.	2.	2.	2.	2.	2
10	1.	1.	1.	4.	2.	5.	1.	3.	7.	2.	2.	2.	8.	7.	7.	7.	6.	6.	5.	5.	4
11	1.	1.	1.	4.	2.	5.	1.	5.	5.	1.	1.	2.	8.	2.	2.	2.	2.	2.	2.	2.	2
12	1.	1.	1.	4.	2.	5.	1.	5.	5.	1.	1.	2.	8.	7.	7.	7.	6.	6.	5.	5.	4
13	1.	1.	1.	4.	2.	5.	1.	5.	5.	1.	1.	2.	8.	8.	2.	2.	2.	2.	2.	2.	7
14	1.	1.	1.	4.	2.	5.	1.	5.	6.	1.	1.	2.	8.	2.	2.	2.	2.	2.	2.	2.	2
15	1.	1.	1.	4.	2.	5.	1.	5.	6.	1.	1.	2.	8.	7.	7.	7.	6.	6.	5.	5.	4
16	1.	1.	1.	4.	2.	5.	1.	5.	6.	1.	1.	2.	8.	8.	2.	2.	2.	2.	2.	2.	7
17	1.	1.	1.	4.	2.	5.	2.	1.	5.	1.	1.	2.	8.	7.	7.	7.	6.	6.	5.	5.	4
18	1.	1.	1.	4.	2.	5.	2.	3.	5.	1.	1.	2.	8.	7.	7.	7.	6.	6.	5.	5.	4
19	1.	1.	1.	4.	2.	5.	3.	5.	5.	1.	1.	2.	8.	7.	7.	7.	6.	6.	5.	5.	4
20	1.	1.	1.	4.	2.	7.	3.	1.	5.	1.	1.	2.	8.	2.	2.	2.	2.	2.	2.	2.	2
21	1.	1.	1.	4.	2.	7.	3.	1.	5.	1.	1.	2.	8.	3.	3.	3.	2.	2.	2.	2.	2
22	1.	1.	1.	4.	2.	7.	3.	1.	5.	1.	1.	2.	8.	7.	5.	5.	5.	5.	4.	4.	4
23	1.	1.	1.	4.	2.	7.	3.	1.	5.	1.	1.	2.	8.	7.	7.	7.	6.	6.	2.	2.	4
24	1.	1.	1.	4.	2.	7.	3.	1.	5.	1.	1.	2.	8.	7.	7.	7.	6.	6.	5.	5.	4
25	1.	1.	1.	4.	2.	7.	3.	1.	5.	1.	1.	2.	8.	8.	2.	2.	2.	2.	2.	2.	7
26	1.	1.	1.	4.	2.	9.	2.	4.	6.	8.	1.	2.	8.	2.	2.	2.	2.	2.	2.	2.	2
27	1.	1.	1.	4.	2.	9.	2.	4.	7.	8.	2.	2.	8.	2.	2.	2.	2.	2.	2.	2.	2
28	1.	1.	1.	4.	2.	9.	2.	4.	7.	8.	2.	2.	8.	7.	7.	7.	6.	6.	5.	5.	4
29	1.	1.	1.	4.	2.	14.	1.	5.	1.	1.	1.	2.	8.	2.	2.	2.	2.	2.	2.	2.	2
30	1.	1.	1.	4.	3.	3.	1.	3.	6.	1.	1.	2.	8.	2.	2.	2.	2.	2.	2.	2.	2
31	1.	1.	1.	4.	3.	3.	1.	3.	6.	2.	1.	3.	8.	2.	2.	2.	2.	2.	2.	2.	2
32	1.	1.	1.	4.	3.	3.	1.	5.	8.	1.	1.	3.	8.	2.	2.	2.	2.	2.	2.	2.	2
33	1.	1.	1.	4.	3.	3.	1.	5.	6.	1.	1.	2.	8.	8.	2.	2.	2.	2.	2.	2.	7
34	1.	1.	1.	4.	3.	3.	1.	5.	8.	2.	1.	3.	8.	2.	2.	2.	2.	2.	2.	2.	2
35	1.	1.	1.	4.	3.	3.	1.	5.	7.	1.	2.	2.	8.	2.	2.	2.	2.	2.	2.	2.	2
36	1.	1.	1.	4.	3.	3.	2.	4.	6.	8.	1.	2.	8.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
37	1.	1.	1.	4.	3.	5.	1.	3.	6.	2.	1.	2.	8.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
38	1.	1.	1.	4.	3.	5.	1.	3.	6.	2.	1.	3.	8.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
39	1.	1.	1.	4.	3.	5.	1.	3.	6.	2.	1.	3.	8.	7.	7.	7.	[illegible]	[illegible]	[illegible]	[illegible]	4
40	1.	1.	1.	4.	3.	5.	1.	3.	7.	2.	2.	2.	8.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
41	1.	1.	1.	4.	3.	5.	1.	5.	5.	1.	1.	2.	8.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
42	1.	1.	1.	4.	3.	5.	1.	5.	6.	1.	1.	2.	8.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
43	1.	1.	1.	4.	3.	5.	1.	5.	6.	1.	1.	2.	8.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	7
44	1.	1.	1.	4.	3.	5.	1.	5.	6.	8.	1.	2.	8.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
45	1.	1.	1.	4.	3.	5.	2.	1.	5.	1.	1.	2.	8.	7.	7.	7.	[illegible]	[illegible]	[illegible]	[illegible]	4
46	1.	1.	1.	4.	3.	5.	2.	5.	5.	1.	1.	3.	8.	7.	7.	7.	[illegible]	[illegible]	[illegible]	[illegible]	4
47	1.	1.	1.	4.	3.	5.	2.	5.	5.	1.	1.	3.	8.	7.	7.	7.	[illegible]	[illegible]	[illegible]	[illegible]	4
48	1.	1.	1.	4.	3.	7.	3.	1.	5.	1.	1.	3.	8.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
49	1.	1.	1.	4.	3.	7.	3.	1.	5.	1.	1.	3.	8.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
50	1.	1.	1.	4.	3.	7.	3.	1.	5.	1.	1.	3.	8.	7.	7.	7.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
51	1.	1.	1.	4.	3.	7.	3.	1.	5.	1.	1.	2.	8.	7.	7.	7.	[illegible]	[illegible]	[illegible]	[illegible]	4
52	1.	1.	1.	4.	3.	7.	3.	1.	5.	1.	1.	2.	8.	7.	7.	7.	[illegible]	[illegible]	[illegible]	[illegible]	4
53	1.	1.	1.	4.	3.	7.	3.	1.	5.	1.	1.	2.	8.	7.	7.	7.	[illegible]	[illegible]	[illegible]	[illegible]	4
54	1.	1.	1.	4.	3.	9.	2.	3.	6.	2.	1.	2.	8.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
55	1.	1.	1.	4.	3.	9.	2.	4.	6.	8.	1.	2.	8.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
56	1.	1.	1.	4.	3.	9.	2.	4.	6.	8.	1.	2.	8.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
57	1.	1.	1.	4.	3.	9.	2.	4.	6.	8.	1.	3.	8.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
58	1.	1.	1.	4.	3.	9.	2.	4.	7.	8.	2.	2.	8.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
59	1.	1.	1.	4.	3.	9.	2.	4.	7.	8.	2.	3.	8.	7.	7.	7.	[illegible]	[illegible]	[illegible]	[illegible]	4
60	1.	1.	1.	4.	3.	9.	3.	3.	5.	1.	1.	3.	8.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
61	1.	1.	1.	4.	3.	9.	3.	3.	5.	1.	1.	2.	8.	7.	7.	7.	[illegible]	[illegible]	[illegible]	[illegible]	4
62	1.	1.	1.	4.	3.	11.	5.	1.	6.	3.	1.	4.	1.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
63	1.	1.	1.	4.	3.	14.	1.	3.	1.	1.	1.	2.	8.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
64	1.	1.	1.	4.	4.	3.	1.	3.	6.	1.	1.	2.	8.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
65	1.	1.	1.	4.	4.	3.	1.	3.	6.	2.	1.	3.	8.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
66	1.	1.	1.	4.	4.	3.	1.	5.	6.	1.	1.	4.	8.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
67	1.	1.	1.	4.	4.	3.	1.	5.	6.	1.	1.	4.	8.	7.	7.	7.	[illegible]	[illegible]	[illegible]	[illegible]	4
68	1.	1.	1.	4.	4.	3.	1.	5.	6.	2.	1.	4.	8.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
69	1.	1.	1.	4.	4.	5.	1.	3.	6.	1.	1.	4.	8.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
70	1.	1.	1.	4.	4.	5.	1.	3.	6.	1.	1.	4.	8.	7.	7.	7.	[illegible]	[illegible]	[illegible]	[illegible]	4

(Continued)

Table A14 (Continued)

USER ID F727 FILE - [illegible] PAGE 0002

71	1.	1.	1.	4.4.	5.1.3.6.2.1.4.8.2.2.2.2.2.2.2.2
72	1.	1.	1.	4.4.	5.1.3.6.2.1.4.8.3.3.3.2.2.2.2.2
73	1.	1.	1.	4.4.	5.1.3.7.2.2.2.8.2.2.2.2.2.2.2.2
74	1.	1.	1.	4.4.	5.1.4.6.1.1.2.8.2.2.2.2.2.2.2.2
75	1.	1.	1.	4.4.	5.1.4.6.8.1.2.8.2.2.2.2.2.2.2.2
76	1.	1.	1.	4.4.	5.1.5.5.1.1.3.8.2.2.2.2.2.2.2.2
77	1.	1.	1.	4.4.	5.1.5.5.1.1.3.8.7.7.2.2.2.2.2.4
78	1.	1.	1.	4.4.	5.1.5.5.1.1.3.8.7.7.7.6.2.2.2.4
79	1.	1.	1.	4.4.	5.1.5.5.1.1.3.8.7.7.7.6.6.5.2.4
80	1.	1.	1.	4.4.	5.[illegible].5.5.1.1.3.8.7.7.7.6.6.5.5.4
81	1.	1.	1.	4.4.	5.1.5.6.1.1.2.8.2.2.2.2.2.2.2.2
82	1.	1.	1.	4.4.	5.1.5.8.1.1.4.8.7.7.7.6.6.5.5.4
83	1.	1.	1.	4.4.	5.1.5.6.1.1.2.8.8.2.2.2.2.2.2.7
84	1.	1.	1.	4.4.	5.1.5.6.8.1.2.8.2.2.2.2.2.2.2.2
85	1.	1.	1.	4.4.	5.1.5.7.1.2.3.8.7.7.7.6.6.5.5.4
86	1.	1.	1.	4.4.	5.2.1.5.1.1.3.8.7.7.7.6.6.5.5.4
87	1.	1.	1.	4.4.	5.2.3.5.1.1.4.8.2.2.2.2.2.2.2.2
88	1.	1.	1.	4.4.	5.2.3.5.1.1.4.8.7.7.7.6.2.2.2.6
89	1.	1.	1.	4.4.	5.2.5.5.1.1.3.8.2.2.2.2.2.2.2.2
90	1.	1.	1.	4.4.	5.2.5.5.1.1.3.8.7.7.2.2.2.2.2.6
91	1.	1.	1.	4.4.	5.2.5.5.1.1.3.8.7.7.7.6.6.2.2.4
92	1.	1.	1.	4.4.	5.3.5.5.1.1.3.8.7.7.2.2.2.2.2.6
93	1.	1.	1.	4.4.	7.3.1.5.1.1.3.8.2.2.2.2.2.2.2.2
94	1.	1.	1.	4.4.	7.3.1.5.1.1.3.8.5.5.5.5.5.4.4.2
95	1.	1.	1.	4.4.	7.3.1.5.1.1.3.8.7.5.5.5.5.4.4.4
96	1.	1.	1.	4.4.	7.3.1.5.1.1.3.8.7.7.7.6.6.2.2.4
97	1.	1.	1.	4.4.	7.3.1.5.1.1.3.8.7.7.7.6.6.2.2.6
98	1.	1.	1.	4.4.	7.3.1.5.1.1.3.8.7.7.7.6.6.5.5.4
99	1.	1.	1.	4.4.	7.3.1.5.1.1.3.8.7.7.7.6.6.5.5.6
100	1.	1.	1.	4.4.	7.3.1.5.1.1.3.8.8.2.2.2.2.2.2.7
101	1.	1.	1.	4.4.	7.3.1.6.1.1.3.8.7.7.7.6.6.5.5.4
102	1.	1.	1.	4.4.	7.3.5.5.1.1.3.8.2.2.2.2.2.2.2.2
103	1.	1.	1.	4.4.	9.2.3.6.2.1.4.8.3.3.3.2.2.2.2.2
104	1.	1.	1.	4.4.	9.2.4.6.8.1.4.8.2.2.2.2.2.2.2.2
105	1.	1.	1.	4.4.	9.2.4.6.8.1.2.8.7.7.7.6.6.5.5.4
106	1.	1.	1.	4.4.	9.2.4.7.8.2.2.8.2.2.2.2.2.2.2.2
107	1.	1.	1.	4.4.	9.5.3.5.1.1.2.8.7.7.7.6.2.2.2.4
108	1.	1.	1.	4.4.	9.5.3.5.1.1.3.8.7.7.7.6.6.5.5.4
109	1.	1.	1.	4.4.	11.5.1.6.3.1.2.8.2.2.2.2.2.2.2
110	1.	1.	1.	4.4.	11.7.3.6.3.1.2.8.2.2.2.2.2.2.2
111	1.	1.	1.	4.4.	14.1.5.1.1.1.2.8.2.2.2.2.2.2.2
112	1.	1.	1.	4.4.	14.1.5.1.1.1.4.8.3.3.3.2.2.2.2
113	1.	1.	1.	4.4.	14.1.5.1.8.1.4.8.3.3.3.2.2.2.2
114	1.	1.	1.	4.5.	3.1.1.5.1.1.3.8.2.2.2.2.2.2.2.2
115	1.	1.	1.	4.5.	3.1.1.5.1.1.3.6.7.7.7.6.6.5.5.4
116	1.	1.	1.	4.5.	3.1.3.6.2.1.3.8.2.2.2.2.2.2.2.2
117	1.	1.	1.	4.5.	3.1.5.6.1.1.4.8.2.2.2.2.2.2.2.2
118	1.	1.	1.	4.5.	3.1.5.6.1.1.3.8.7.7.7.6.6.5.5.4
119	1.	1.	1.	4.5.	3.1.5.6.2.1.4.8.2.2.2.2.2.2.2.2
120	1.	1.	1.	4.5.	3.1.5.6.2.1.3.8.7.7.7.6.6.5.5.4
121	1.	1.	1.	4.5.	[illegible]
122	1.	1.	1.	4.5.	[illegible]
123	1.	1.	1.	4.5.	[illegible]
124	1.	1.	1.	4.5.	[illegible]
125	1.	1.	1.	4.5.	[illegible]
126	1.	1.	1.	4.5.	[illegible]
127	1.	1.	1.	4.5.	[illegible]
128	1.	1.	1.	4.5.	[illegible]
129	1.	1.	1.	4.5.	[illegible]
130	1.	1.	1.	4.5.	[illegible]
131	1.	1.	1.	4.5.	[illegible]
132	1.	1.	1.	4.5.	[illegible]
133	1.	1.	1.	4.5.	[illegible]
134	1.	1.	1.	4.5.	[illegible]
135	1.	1.	1.	4.5.	[illegible]
136	1.	1.	1.	4.5.	[illegible]
137	1.	1.	1.	4.5.	[illegible]
138	1.	1.	1.	4.5.	[illegible]
139	1.	1.	1.	4.5.	[illegible]
140	1.	1.	1.	4.5.	[illegible]
141	1.	1.	1.	4.5.	[illegible]
142	1.	1.	1.	4.5.	[illegible]
143	1.	1.	1.	4.5.	[illegible]
144	1.	1.	1.	4.5.	[illegible]
145	1.	1.	1.	4.5.	[illegible]
146	1.	1.	1.	4.5.	[illegible]
147	1.	1.	1.	4.5.	[illegible]
148	1.	1.	1.	4.5.	[illegible]
149	1.	1.	1.	4.5.	[illegible]
150	1.	1.	1.	4.5.	[illegible]
151	1.	1.	1.	4.5.	[illegible]
152	1.	1.	1.	4.5.	[illegible]
153	1.	1.	1.	4.5.	[illegible]
154	1.	1.	1.	4.5.	[illegible]
155	1.	1.	1.	4.5.	[illegible]
156	1.	1.	1.	4.5.	[illegible]
157	1.	1.	1.	4.5.	[illegible]
158	1.	1.	1.	4.5.	[illegible]
159	1.	1.	1.	4.5.	[illegible]
160	1.	1.	1.	[illegible]	[illegible]
161	1.	1.	1.	[illegible]	[illegible]
162	1.	1.	1.	[illegible]	[illegible]
163	1.	1.	1.	[illegible]	[illegible]
164	1.	1.	1.	[illegible]	[illegible]
165	1.	1.	1.	[illegible]	[illegible]
166	1.	1.	1.	[illegible]	[illegible]
167	1.	1.	1.	[illegible]	[illegible]
168	1.	1.	1.	[illegible]	[illegible]
169	1.	1.	1.	4.6.	[illegible]
170	1.	1.	1.	4.6.	[illegible]

(Continued)

Table A14 (Continued)

USER ID 4727 FILE - GENMNY PAGE 0003

171	1.	1.	1.	4,6,	5,1,3,6,2,1,4,8,2,2,2,2,2,2,2,2
172	1.	1.	1.	4,6,	5,1,3,6,2,1,4,8,3,3,3,2,2,2,2,2
173	1.	1.	1.	4,6,	5,1,5,5,1,1,3,8,2,2,2,2,2,2,2,2
174	1.	1.	1.	4,6,	5,1,5,6,1,1,2,8,2,2,2,2,2,2,2,2
175	1.	1.	1.	4,6,	5,1,5,6,1,1,2,8,7,7,7,6,6,5,5,4
176	1.	1.	1.	4,6,	5,2,3,5,1,1,4,8,7,7,7,6,2,2,2,6
177	1.	1.	1.	4,6,	5,3,3,5,1,1,4,8,7,7,7,6,6,2,2,4
178	1.	1.	1.	4,6,	7,2,1,5,1,1,4,8,7,7,7,6,6,5,5,4
179	1.	1.	1.	4,6,	7,3,1,5,1,1,3,8,2,2,2,2,2,2,2,2
180	1.	1.	1.	4,6,	7,3,1,5,1,1,3,8,7,7,2,2,2,2,2,4
181	1.	1.	1.	4,6,	7,3,1,5,1,1,4,8,7,7,7,6,2,2,2,4
182	1.	1.	1.	4,6,	7,3,1,5,1,1,3,8,7,7,7,6,6,2,2,4
183	1.	1.	1.	4,6,	7,3,1,5,1,1,3,8,7,7,7,6,6,2,2,6
184	1.	1.	1.	4,6,	7,3,1,5,1,1,3,8,7,7,7,6,6,3,3,4
185	1.	1.	1.	4,6,	7,3,1,5,1,1,3,8,7,7,7,6,6,5,5,4
186	1.	1.	1.	4,6,	9,2,4,6,8,1,4,8,2,2,2,2,2,2,2,2
187	1.	1.	1.	4,6,	9,2,5,6,9,1,2,8,2,2,2,2,2,2,2,2
188	1.	1.	1.	4,6,	9,5,3,5,1,1,3,8,2,2,2,2,2,2,2,2
189	1.	1.	1.	4,6,14	1,5,1,1,4,8,2,2,2,2,2,2,2,2
190	1.	1.	1.	4,7,	7,3,1,5,1,1,3,8,7,7,7,6,6,5,5,4
191	1.	1.	2.	4,1,	3,1,5,6,1,1,2,8,2,2,2,2,2,2,2,2
192	1.	1.	2.	4,1,	5,2,5,6,2,1,2,8,2,2,2,2,2,2,2,2
193	1.	1.	2.	4,1,	5,2,5,6,2,1,2,8,3,3,3,2,2,2,2,2
194	1.	1.	2.	4,1,	5,2,5,6,8,1,2,8,2,2,2,2,2,2,2,2
195	1.	1.	2.	4,1,	7,3,1,5,1,1,2,8,7,7,7,6,6,5,2,4
196	1.	1.	2.	4,1,	7,3,1,5,1,1,2,8,7,7,7,6,6,5,5,4
197	1.	1.	2.	4,1,	9,2,4,6,1,1,2,8,2,2,2,2,2,2,2,2
198	1.	1.	2.	4,1,	9,2,4,6,8,1,2,8,2,2,2,2,2,2,2,2
199	1.	1.	2.	4,1,	9,2,4,6,8,1,2,8,4,4,4,3,2,2,2,5
200	1.	1.	2.	4,1,	9,2,4,7,8,2,2,8,2,2,2,2,2,2,2,2
201	1.	1.	2.	4,1,	9,3,4,6,8,1,2,8,2,2,2,2,2,2,2,2
202	1.	1.	2.	4,1,	9,3,4,6,8,1,2,8,3,3,3,2,2,2,2,2
203	1.	1.	2.	4,1,14,	1,5,1,1,1,2,8,2,2,2,2,2,2,2,2
204	1.	1.	2.	4,1,14,	1,5,6,8,1,2,8,2,2,2,2,2,2,2,2
205	1.	1.	2.	4,2,	1,1,5,1,1,1,2,8,2,2,2,2,2,2,2,2
206	1.	1.	2.	4,2,	3,1,3,6,1,1,2,8,2,2,2,2,2,2,2,2
207	1.	1.	2.	4,2,	3,1,5,5,1,1,2,8,2,2,2,2,2,2,2,2
208	1.	1.	2.	4,2,	3,1,5,6,1,1,2,8,2,2,2,2,2,2,2,2
209	1.	1.	2.	4,2,	3,1,5,6,1,1,2,8,4,4,4,4,4,3,3,2
210	1.	1.	2.	4,2,	3,1,5,6,1,1,2,8,7,7,7,6,6,2,2,4
211	1.	1.	2.	4,2,	3,1,5,6,1,1,2,8,7,7,7,6,6,5,5,4
212	1.	1.	2.	4,2,	3,1,5,6,8,1,2,8,2,2,2,2,2,2,2,2
213	1.	1.	2.	4,2,	3,1,5,7,1,2,2,8,2,2,2,2,2,2,2,2
214	1.	1.	2.	4,2,	3,[illegible],5,7,8,2,2,8,2,2,2,2,2,2,2,2
215	1.	1.	2.	4,2,	3,2,4,6,8,1,2,8,2,2,2,2,2,2,2,2
216	1.	1.	2.	4,2,	3,[illegible],5,5,1,1,2,8,2,2,2,2,2,2,2,4
217	1.	1.	2.	4,2,	3,2,5,6,1,1,2,8,2,2,2,2,2,2,2,2
218	1.	1.	2.	4,2,	3,2,5,7,8,2,4,1,1,1,1,1,1,1,1,2
219	1.	1.	2.	4,2,	3,3,5,5,1,1,2,8,2,2,2,2,2,2,2,2
220	1.	1.	2.	4,2,	3,3,5,5,1,1,2,8,7,7,7,6,6,5,5,[illegible]
221	1.	1.	2.	4,2,	3,3,5,6,1,1,2,8,2,2,2,2,2,2,2,2
222	1.	1.	2.	4,2,	3,3,5,6,1,1,2,8,7,7,7,6,6,5,5,4
223	1.	1.	2.	4,2,	5,1,3,6,1,1,2,8,3,3,3,2,2,2,2,2
224	1.	1.	2.	4,2,	5,1,3,6,2,1,2,8,2,2,2,2,2,2,2,2
225	1.	1.	2.	4,2,	5,1,3,6,2,1,2,8,3,3,3,2,2,2,2,2
226	1.	1.	2.	4,2,	5,1,3,6,3,1,2,8,2,2,2,2,2,2,2,2
227	1.	1.	2.	4,2,	5,1,3,6,3,1,2,8,3,3,3,2,2,2,2,2
228	1.	1.	2.	4,2,	5,1,3,7,2,2,2,8,2,2,2,2,2,2,2,2
229	1.	1.	2.	4,2,	5,1,3,7,3,2,2,8,2,2,2,2,2,2,2,2
230	1.	1.	2.	4,2,	5,1,4,5,1,1,2,8,2,2,2,2,2,2,2,2
231	1.	1.	2.	4,2,	5,1,5,1,1,1,2,8,2,2,2,2,2,2,2,2
232	1.	1.	2.	4,2,	5,1,5,5,1,1,2,8,2,2,2,2,2,2,2,2
233	1.	1.	2.	4,2,	5,1,5,5,1,1,2,8,3,3,3,2,2,2,2,4
234	1.	1.	2.	4,2,	5,1,5,6,1,1,2,8,2,2,2,2,2,2,2,2
235	1.	1.	2.	4,2,	5,1,5,6,1,1,2,8,7,7,7,6,6,5,5,4
236	1.	1.	2.	4,2,	5,1,5,6,2,1,2,8,2,2,2,2,2,2,2,2
237	1.	1.	2.	4,2,	5,1,5,6,2,1,2,8,3,3,3,2,2,2,2,2
238	1.	1.	2.	4,2,	5,1,5,6,8,1,2,8,2,2,2,2,2,2,2,2
239	1.	1.	2.	4,2,	5,1,5,7,1,2,2,8,2,2,2,2,2,2,2,2
240	1.	1.	2.	4,2,	5,1,5,7,2,2,2,8,3,3,3,2,2,2,2,2
241	1.	1.	2.	4,2,	5,1,5,7,8,2,2,8,2,2,2,2,2,2,2,2
242	1.	1.	2.	4,2,	5,2,3,6,8,1,2,8,2,2,2,2,2,2,2,2
243	1.	1.	2.	4,2,	5,2,3,6,8,1,2,8,3,3,3,2,2,2,2,2
244	1.	1.	2.	4,2,	5,2,5,6,1,1,2,8,3,3,3,2,2,2,2,2
245	1.	1.	2.	4,2,	5,2,5,6,2,1,2,8,2,2,2,2,2,2,2,2
246	1.	1.	2.	4,2,	5,2,5,6,2,1,2,8,3,3,3,2,2,2,2,2
247	1.	1.	2.	4,2,	5,2,5,6,8,1,2,8,2,2,2,2,2,2,2,2
248	1.	1.	2.	4,2,	5,2,5,6,8,1,2,8,3,3,3,2,2,2,2,2
249	1.	1.	2.	4,2,	5,2,5,7,2,2,2,8,2,2,2,2,2,2,2,2
250	1.	1.	2.	4,2,	5,3,5,5,1,1,2,8,7,2,2,2,2,2,2,5
251	1.	1.	2.	4,2,	7,1,1,5,1,1,2,8,2,2,2,2,2,2,2,2
252	1.	1.	2.	4,2,	7,1,1,5,1,1,2,8,7,7,7,6,6,5,5,2
253	1.	1.	2.	4,2,	7,1,3,7,8,2,2,8,2,2,2,2,2,2,2,2
254	1.	1.	2.	4,2,	7,1,5,5,1,1,2,8,7,7,7,6,6,5,5,4
255	1.	1.	2.	4,2,	7,1,5,7,1,2,2,8,2,2,2,2,2,2,2,2
256	1.	1.	2.	4,2,	7,2,1,5,1,1,2,8,7,3,2,2,2,2,2,4
257	1.	1.	2.	4,2,	7,2,1,5,1,1,2,8,7,7,7,6,6,5,5,4
258	1.	1.	2.	4,2,	7,2,3,5,1,1,2,8,7,7,7,2,2,2,2,2
259	1.	1.	2.	4,2,	7,2,4,6,8,1,2,8,2,2,2,2,2,7,2,2
260	1.	1.	2.	4,2,	7,2,5,7,1,2,2,8,2,2,2,2,2,2,2,2
261	1.	1.	2.	4,2,	7,3,1,5,1,1,2,8,2,2,2,2,2,2,2,2
262	1.	1.	2.	4,2,	7,3,1,5,1,1,2,8,3,3,3,2,2,2,2,2
263	1.	1.	2.	4,2,	7,3,1,5,1,1,2,8,4,4,4,2,2,2,2,2
264	1.	1.	2.	4,2,	7,3,1,5,1,1,2,8,7,2,2,2,2,2,2,2
265	1.	1.	2.	4,[illegible]	7,3,1,5,1,1,2,8,7,2,2,2,2,2,2,7
266	1.	1.	2.	4,2,	7,3,1,5,1,1,2,8,7,3,2,2,2,2,2,4
267	1.	1.	2.	4,2,	7,3,1,5,1,1,2,8,7,7,7,2,2,2,2,4
268	1.	1.	2.	4,2,	7,3,1,5,1,1,2,8,7,7,7,6,6,2,2,4
269	1.	1.	2.	4,2,	7,3,1,5,1,1,2,8,7,7,7,6,6,5,2,4
270	1.	1.	2.	4,2,	7,3,1,5,1,1,2,8,7,7,7,6,6,5,5,4

(Continued)

Table A14 (Continued)

USER ID F727 FILE - GERMNY PAGE 0004

271	1.	1.	2.	4.2.	7.3.1.0.1.1.2.0.7.7.7.6.6.5.5.4
272	1.	1.	2.	4.2.	7.3.3.5.1.1.2.0.2.2.2.2.2.2.2.2
273	1.	1.	2.	4.2.	7.3.3.6.1.1.2.0.2.2.2.2.2.2.2.2
274	1.	1.	2.	4.2.	7.3.3.6.1.1.2.0.4.4.4.4.4.3.3.2
275	1.	1.	2.	4.2.	7.3.5.5.1.1.2.0.4.2.2.2.2.2.2.2
276	1.	1.	2.	4.2.	7.4.1.5.1.1.2.0.7.7.7.6.6.5.5.4
277	1.	1.	2.	4.2.	9.1.4.1.1.1.2.0.2.2.2.2.2.2.2.2
278	1.	1.	2.	4.2.	9.1.4.1.0.1.2.0.2.2.2.2.2.2.2.2
279	1.	1.	2.	4.2.	9.1.4.1.0.1.2.0.3.3.3.2.2.2.2.2
280	1.	1.	2.	4.2.	9.1.4.6.1.1.2.0.2.2.2.2.2.2.2.2
281	1.	1.	2.	4.2.	9.1.4.6.0.1.2.0.2.2.2.2.2.2.2.2
282	1.	1.	2.	4.2.	9.1.4.7.2.2.2.0.3.3.3.2.2.2.2.2
283	1.	1.	2.	4.2.	9.1.4.7.0.2.2.0.2.2.2.2.2.2.2.2
284	1.	1.	2.	4.2.	9.1.5.6.1.1.2.0.2.2.2.2.2.2.2.2
285	1.	1.	2.	4.2.	9.2.3.6.0.1.2.0.2.2.2.2.2.2.2.2
286	1.	1.	2.	4.2.	9.2.3.6.0.1.2.0.3.3.3.2.2.2.2.2
287	1.	1.	2.	4.2.	9.2.3.7.0.2.2.0.2.2.2.2.2.2.2.2
288	1.	1.	2.	4.2.	9.2.4.1.1.1.2.0.2.2.2.2.2.2.2.2
289	1.	1.	2.	4.2.	9.2.4.5.1.1.2.0.7.7.7.6.6.5.5.4
290	1.	1.	2.	4.2.	9.2.4.6.1.1.2.0.2.2.2.2.2.2.2.2
291	1.	1.	2.	4.2.	9.2.4.6.2.1.2.0.3.3.3.2.2.2.2.2
292	1.	1.	2.	4.2.	9.2.4.6.0.1.2.0.2.2.2.2.2.2.2.2
293	1.	1.	2.	4.2.	9.2.4.6.0.1.2.0.3.3.3.2.2.2.2.2
294	1.	1.	2.	4.2.	9.2.4.6.0.1.2.0.4.4.2.2.2.2.2.2
295	1.	1.	2.	4.2.	9.2.4.6.0.1.2.0.7.7.7.5.6.5.5.4
296	1.	1.	2.	4.2.	9.2.4.6.0.1.2.0.0.2.2.2.2.2.2.2
297	1.	1.	2.	4.2.	9.2.4.7.0.2.2.0.2.2.2.2.2.2.2.2
298	1.	1.	2.	4.2.	9.2.4.7.0.2.2.0.3.3.3.2.2.2.2.2
299	1.	1.	2.	4.2.	9.2.4.7.0.2.2.0.4.4.4.2.2.2.2.2
300	1.	1.	2.	4.2.	9.2.4.7.0.2.2.0.5.5.5.2.2.2.2.2
301	1.	1.	2.	4.2.	9.2.4.7.0.2.2.0.7.7.7.6.6.5.5.4
302	1.	1.	2.	4.2.	9.2.4.7.0.2.2.0.0.2.2.2.2.2.2.2
303	1.	1.	2.	4.2.	9.2.5.6.0.1.2.0.7.2.2.2.2.2.2.2
304	1.	1.	2.	4.2.	9.3.4.6.0.1.2.0.2.2.2.2.2.2.2.2
305	1.	1.	2.	4.2.	9.3.4.6.0.1.2.0.3.3.3.2.2.2.2.2
306	1.	1.	2.	4.2.	9.3.4.7.0.2.2.0.2.2.2.2.2.2.2.2
307	1.	1.	2.	4.2.	9.4.1.5.1.1.2.0.7.7.7.6.6.5.5.4
308	1.	1.	2.	4.2.11.1.5.1.1.1.2.0.2.2.2.2.2.2.2.2	
309	1.	1.	2.	4.2.11.2.3.7.0.2.2.0.2.2.2.2.2.2.2.2	
310	1.	1.	2.	4.2.11.2.3.7.0.2.2.0.3.3.3.2.2.2.2.2	
311	1.	1.	2.	4.2.11.2.4.6.1.1.2.0.7.7.7.6.6.5.5.4	
312	1.	1.	2.	4.2.11.2.4.6.0.1.2.0.3.3.3.2.2.2.2.2	
313	1.	1.	2.	4.2.14.1.5.1.1.1.2.0.2.2.2.2.2.2.2.2	
314	1.	1.	2.	4.2.14.1.5.1.1.1.2.0.3.3.3.2.2.2.2.2	
315	1.	1.	2.	4.2.14.1.5.1.1.1.2.0.5.5.5.5.5.5.5.2	
316	1.	1.	2.	4.2.14.1.5.1.3.1.2.0.3.3.3.2.2.2.2.2	
317	1.	1.	2.	4.2.14.1.5.1.0.1.2.0.2.2.2.2.2.2.2.2	
318	1.	1.	2.	4.2.14.1.5.6.1.1.2.0.2.2.2.2.2.2.2.2	
319	1.	1.	2.	4.2.14.1.5.6.0.1.2.0.2.2.2.2.2.2.2.2	
320	1.	1.	2.	4.2.14.2.5.1.1.1.2.0.7.2.2.2.2.2.2.2	
321	1.	1.	2.	4.2.14.2.5.6.0.1.2.0.2.2.2.2.2.2.2.2	
322	1.	1.	2.	4.2.14.3.5.1.1.1.2.0.2.2.2.2.2.2.2.2	
323	1.	1.	2.	4.2.14.3.5.5.1.1.2.0.2.2.2.2.2.2.2.2	
324	1.	1.	2.	4.2.14.3.5.5.1.1.2.0.4.4.4.2.2.2.2.2	
325	1.	1.	2.	4.2.14.3.5.6.2.1.2.0.3.3.3.2.2.2.2.2	
326	1.	1.	2.	4.2.14.7.1.6.2.1.4.1.1.1.1.1.1.1.2	
327	1.	1.	2.	4.3.	1.1.5.6.1.1.2.0.2.2.2.2.2.2.2.2
328	1.	1.	2.	4.3.	1.1.5.7.0.2.2.0.7.7.7.6.6.5.5.4
329	1.	1.	2.	4.3.	3.1.2.6.1.1.2.1.1.1.1.1.1.1.2
330	1.	1.	2.	4.3.	3.1.3.6.1.1.2.0.2.2.2.2.2.2.2.2
331	1.	1.	2.	4.3.	3.1.3.6.2.1.2.0.2.2.2.2.2.2.2.2
332	1.	1.	2.	4.3.	3.1.4.6.1.1.3.0.2.2.2.2.2.2.2.2
333	1.	1.	2.	4.3.	3.1.5.5.1.1.3.0.2.2.2.2.2.2.2.2
334	1.	1.	2.	4.3.	3.1.5.5.1.1.2.0.7.7.2.2.2.2.2.4
335	1.	1.	2.	4.3.	3.1.5.5.1.1.2.0.7.7.7.6.6.5.5.4
336	1.	1.	2.	4.3.	3.1.5.6.1.1.2.0.2.2.2.2.2.2.2.2
337	1.	1.	2.	4.3.	3.1.5.6.1.1.2.0.3.3.3.2.2.2.2.2
338	1.	1.	2.	4.3.	3.1.5.6.1.1.2.0.7.7.7.6.6.5.5.4
339	1.	1.	2.	4.3.	3.1.5.6.1.1.2.0.0.2.2.2.2.2.2.7
340	1.	1.	2.	4.3.	3.1.5.6.2.1.2.0.2.2.2.2.2.2.2.2
341	1.	1.	2.	4.3.	3.1.5.6.0.1.2.0.2.2.2.2.2.2.2.2
342	1.	1.	2.	4.3.	3.1.5.7.1.2.2.0.2.2.2.2.2.2.2.2
343	1.	1.	2.	4.3.	3.1.5.7.0.2.2.0.2.2.2.2.2.2.2.2
344	1.	1.	2.	4.3.	3.2.4.6.0.1.2.0.2.2.2.2.2.2.2.2
345	1.	1.	2.	4.3.	3.2.4.7.0.2.3.0.2.2.2.2.2.2.2.2
346	1.	1.	2.	4.3.	3.2.4.7.0.2.3.0.7.7.7.6.6.5.5.4
347	1.	1.	2.	4.3.	3.2.5.5.1.1.2.0.7.7.7.6.6.5.5.4
348	1.	1.	2.	4.3.	3.2.5.6.1.1.2.0.2.2.2.2.2.2.2.2
349	1.	1.	2.	4.3.	3.2.5.6.1.1.3.0.3.3.3.2.2.2.2.2
350	1.	1.	2.	4.3.	3.2.5.6.1.1.2.0.7.7.7.6.6.5.5.4
351	1.	1.	2.	4.3.	3.2.5.6.2.1.2.0.2.2.2.2.2.2.2.2
352	1.	1.	2.	4.3.	3.2.5.7.0.2.3.1.1.1.1.1.1.1.2
353	1.	1.	2.	4.3.	3.2.5.7.0.2.2.0.2.2.2.2.2.2.2.2
354	1.	1.	2.	4.3.	3.3.5.5.1.1.2.0.7.7.7.6.6.5.5.6
355	1.	1.	2.	4.3.	3.3.5.6.1.1.2.0.2.2.2.2.2.2.2.2
356	1.	1.	2.	4.3.	3.3.5.6.1.1.2.0.7.2.2.2.2.2.2.2
357	1.	1.	2.	4.3.	3.3.5.6.1.1.2.0.7.7.7.6.6.5.5.4
358	1.	1.	2.	4.3.	5.1.3.6.1.1.2.0.2.2.2.2.2.2.2.2
359	1.	1.	2.	4.3.	5.1.3.6.1.1.3.0.3.3.3.2.2.2.2.2
360	1.	1.	2.	4.3.	5.1.3.6.2.1.2.0.2.2.2.2.2.2.2.2
361	1.	1.	2.	4.3.	5.1.3.6.2.1.2.0.3.3.3.2.2.2.2.2
362	1.	1.	2.	4.3.	5.1.3.6.2.1.2.0.3.3.3.3.3.2.2.2
363	1.	1.	2.	4.3.	5.1.3.6.2.1.2.0.0.2.2.2.2.2.2.7
364	1.	1.	2.	4.3.	5.1.3.6.3.1.2.0.2.2.2.2.2.2.2.2
365	1.	1.	2.	4.3.	5.1.3.6.3.1.2.0.3.3.3.2.2.2.2.2
366	1.	1.	2.	4.3.	5.1.3.7.2.2.2.0.2.2.2.2.2.2.2.2
367	1.	1.	2.	4.3.	5.1.3.7.2.2.2.0.3.3.3.2.2.2.2.2
368	1.	1.	2.	4.3.	5.1.4.5.1.1.3.0.2.2.2.2.2.2.2.2
369	1.	1.	2.	4.3.	5.1.4.6.0.1.2.0.2.2.2.2.2.2.2.2
370	1.	1.	2.	4.3.	5.1.5.1.1.1.2.0.2.2.2.2.2.2.2.2

(Continued)

4 of 15 Sheets

Table A14 (Continued)

USER ID F727 FILE - GERMNY PAGE 0005

371	1.	1.	2.	4.3.	5.1.5.5.1.1.2.0.2.2.2.2.2.2.2.2
372	1.	1.	2.	4.3.	5.1.5.5.1.1.2.0.7.7.2.2.2.2.2.4
373	1.	1.	2.	4.3.	5.1.5.5.1.1.3.0.7.7.2.2.2.2.2.6
374	1.	1.	2.	4.3.	5.1.5.5.1.1.2.0.7.7.7.6.6.5.5.4
375	1.	1.	2.	4.3.	5.1.5.6.1.1.2.0.2.2.2.2.2.2.2.2
376	1.	1.	2.	4.3.	5.1.5.6.1.1.2.0.3.3.3.2.2.2.2.2
377	1.	1.	2.	4.3.	5.1.5.6.1.1.2.0.7.2.2.2.2.2.2.4
378	1.	1.	2.	4.3.	5.1.5.6.1.1.2.0.7.7.7.2.2.2.2.4
379	1.	1.	2.	4.3.	5.1.5.6.1.1.2.0.7.7.7.6.6.5.5.4
380	1.	1.	2.	4.3.	5.1.5.6.2.1.2.0.2.2.2.2.2.2.7.2
381	1.	1.	2.	4.3.	5.1.5.6.2.1.3.0.3.3.3.2.2.2.2.2
382	1.	1.	2.	4.3.	5.1.5.6.0.1.2.0.2.2.2.2.2.2.2.2
383	1.	1.	2.	4.3.	5.1.5.6.0.1.2.0.3.3.3.2.2.2.2.2
384	1.	1.	2.	4.3.	5.1.5.7.1.2.2.0.2.2.2.2.2.2.2.2
385	1.	1.	2.	4.3.	5.1.5.7.1.2.3.0.5.5.5.2.2.2.2.2
386	1.	1.	2.	4.3.	5.1.5.7.2.2.2.0.2.2.2.2.2.2.2.2
387	1.	1.	2.	4.3.	5.1.5.7.2.2.3.0.3.3.3.2.2.2.2.2
388	1.	1.	2.	4.3.	5.1.5.7.2.2.2.0.7.7.7.6.6.5.5.4
389	1.	1.	2.	4.3.	5.1.5.7.0.2.2.0.2.2.2.2.2.2.2.2
390	1.	1.	2.	4.3.	5.1.5.7.0.2.2.0.3.3.3.2.2.2.2.2
391	1.	1.	2.	4.3.	5.2.3.6.0.1.2.0.2.2.2.2.2.2.2.2
392	1.	1.	2.	4.3.	5.2.5.6.1.1.2.0.2.2.2.2.2.2.2.2
393	1.	1.	2.	4.3.	5.2.5.6.1.1.2.0.3.3.3.2.2.2.2.2
394	1.	1.	2.	4.3.	5.2.5.6.1.1.2.0.7.7.7.6.6.5.5.4
395	1.	1.	2.	4.3.	5.2.5.6.2.1.3.0.2.2.2.2.2.2.2.2
396	1.	1.	2.	4.3.	5.2.5.6.2.1.2.0.3.3.3.2.2.2.2.2
397	1.	1.	2.	4.3.	5.2.5.6.0.1.2.0.2.2.2.2.2.2.2.2
398	1.	1.	2.	4.3.	5.2.5.6.0.1.2.0.3.3.3.2.2.2.2.2
399	1.	1.	2.	4.3.	5.2.5.7.2.2.2.0.2.2.2.2.2.2.2.2
400	1.	1.	2.	4.3.	5.2.5.7.2.2.2.0.3.3.3.2.2.2.2.2
401	1.	1.	2.	4.3.	5.2.5.7.2.2.2.0.7.7.7.6.6.2.2.6
402	1.	1.	2.	4.3.	5.2.5.7.0.2.2.0.2.2.2.2.2.2.2.2
403	1.	1.	2.	4.3.	5.2.5.7.0.2.2.0.4.4.4.4.2.2.2.2
404	1.	1.	2.	4.3.	5.3.1.5.1.1.3.0.2.2.2.2.2.2.2.2
405	1.	1.	2.	4.3.	5.3.3.5.1.1.2.0.2.2.2.2.2.2.2.2
406	1.	1.	2.	4.3.	5.3.5.6.1.1.2.0.2.2.2.2.2.2.2.2
407	1.	1.	2.	4.3.	5.3.5.6.1.1.2.0.3.3.3.2.2.2.2.2
408	1.	1.	2.	4.3.	5.3.5.6.1.1.2.0.7.7.7.6.6.5.5.4
409	1.	1.	2.	4.3.	5.3.5.6.2.1.2.0.2.2.2.2.2.2.2.2
410	1.	1.	2.	4.3.	5.3.5.7.1.2.2.5.2.2.2.2.2.2.2.2
411	1.	1.	2.	4.3.	7.1.3.6.2.1.2.0.2.2.2.2.2.2.2.2
412	1.	1.	2.	4.3.	7.1.5.5.2.1.2.0.3.3.3.2.2.2.2.2
413	1.	1.	2.	4.3.	7.1.5.6.1.1.2.0.3.3.3.2.2.2.2.2
414	1.	1.	2.	4.3.	7.1.5.7.1.2.2.0.7.2.2.2.2.2.2.2
415	1.	1.	2.	4.3.	7.2.5.5.1.1.2.0.4.4.4.2.2.2.2.2
416	1.	1.	2.	4.3.	7.2.5.7.1.2.3.0.2.2.2.2.2.2.2.2
417	1.	1.	2.	4.3.	7.2.5.7.2.2.2.0.2.2.2.2.2.2.2.2
418	1.	1.	2.	4.3.	7.3.1.5.1.1.2.0.2.2.2.2.2.2.2.2
419	1.	1.	2.	4.3.	7.3.1.5.1.1.2.0.3.3.3.2.2.2.2.2
420	1.	1.	2.	4.3.	7.3.1.5.1.1.2.0.7.2.2.2.2.2.2.7
421	1.	1.	2.	4.3.	7.3.1.5.1.1.3.0.7.3.2.2.2.2.2.4
422	1.	1.	2.	4.3.	7.3.1.5.1.1.3.0.7.7.2.2.2.2.2.4
423	1.	1.	2.	4.3.	7.3.1.5.1.1.3.0.7.7.2.2.2.2.2.6
424	1.	1.	2.	4.3.	7.3.1.5.1.1.3.0.7.7.7.2.2.2.2.4
425	1.	1.	2.	4.3.	7.3.1.5.1.1.3.0.7.7.7.6.6.2.2.4
426	1.	1.	2.	4.3.	7.3.1.5.1.1.2.0.7.7.7.6.6.5.2.4
427	1.	1.	2.	4.3.	7.3.1.5.1.1.2.0.7.7.7.6.6.5.5.4
428	1.	1.	2.	4.3.	7.3.1.5.1.1.3.0.7.7.7.6.6.5.5.6
429	1.	1.	2.	4.3.	7.3.1.6.1.1.3.0.2.2.2.2.2.2.2.2
430	1.	1.	2.	4.3.	7.3.1.6.1.1.2.0.7.7.7.6.6.5.5.4
431	1.	1.	2.	4.3.	7.3.3.7.2.2.2.0.3.3.3.2.2.2.2.2
432	1.	1.	2.	4.3.	7.3.4.7.0.2.2.0.3.3.3.2.2.2.2.2
433	1.	1.	2.	4.3.	7.3.5.5.1.1.2.0.4.2.2.2.2.2.2.2
434	1.	1.	2.	4.3.	7.3.5.7.2.2.2.0.2.2.2.2.2.2.2.2
435	1.	1.	2.	4.3.	7.4.1.5.1.1.2.0.7.7.7.6.6.5.5.4
436	1.	1.	2.	4.3.	9.1.4.6.2.1.2.0.2.2.2.2.2.2.2.2
437	1.	1.	2.	4.3.	9.1.4.6.2.1.2.0.3.3.3.2.2.2.2.2
438	1.	1.	2.	4.3.	9.1.4.6.2.1.2.0.7.7.7.6.6.5.5.4
439	1.	1.	2.	4.3.	9.1.4.6.0.1.2.0.2.2.2.2.2.2.2.2
440	1.	1.	2.	4.3.	9.1.4.6.0.1.3.0.3.3.3.2.2.2.2.2
441	1.	1.	2.	4.3.	9.1.4.7.2.2.2.0.3.3.3.2.2.2.2.2
442	1.	1.	2.	4.3.	9.2.3.6.0.1.3.0.2.2.2.2.2.2.2.2
443	1.	1.	2.	4.3.	9.2.3.6.0.1.2.0.3.3.3.2.2.2.2.2
444	1.	1.	2.	4.3.	9.2.3.6.0.1.3.0.3.3.3.3.3.2.2.2
445	1.	1.	2.	4.3.	9.2.4.6.1.1.2.0.2.2.2.2.2.2.2.2
446	1.	1.	2.	4.3.	9.2.4.6.0.1.3.1.1.1.1.1.1.1.1.2
447	1.	1.	2.	4.3.	9.2.4.6.0.1.2.0.2.2.2.2.2.2.2.2
448	1.	1.	2.	4.3.	9.2.4.6.0.1.2.0.3.3.3.2.2.2.2.2
449	1.	1.	2.	4.3.	9.2.4.6.0.1.2.0.4.4.2.2.2.2.2.2
450	1.	1.	2.	4.3.	9.2.4.6.0.1.2.0.4.4.4.3.2.2.2.5
451	1.	1.	2.	4.3.	9.2.4.6.0.1.2.0.7.7.7.2.2.2.2.4
452	1.	1.	2.	4.3.	9.2.4.6.0.1.2.0.7.7.7.6.6.5.5.4
453	1.	1.	2.	4.3.	9.2.4.6.0.1.2.0.0.2.2.2.2.2.2.2
454	1.	1.	2.	4.3.	9.2.4.7.2.2.2.0.2.2.2.2.2.2.2.2
455	1.	1.	2.	4.3.	9.2.4.7.2.2.2.0.5.5.5.2.2.2.2.2
456	1.	1.	2.	4.3.	9.2.4.7.2.2.2.0.6.2.2.2.2.2.2.2
457	1.	1.	2.	4.3.	9.2.4.7.0.2.2.0.2.2.2.2.2.2.2.2
458	1.	1.	2.	4.3.	9.2.4.7.0.2.2.0.3.3.3.2.2.2.2.2
459	1.	1.	2.	4.3.	9.2.4.7.0.2.2.0.5.5.5.2.2.2.2.2
460	1.	1.	2.	4.3.	9.2.4.7.0.2.2.0.6.2.2.2.2.2.2.2
461	1.	1.	2.	4.3.	9.2.4.7.0.2.4.0.6.6.2.2.2.2.2.2
462	1.	1.	2.	4.3.	9.2.4.7.0.2.2.0.7.7.4.2.2.2.2.4
463	1.	1.	2.	4.3.	9.2.4.7.0.2.2.0.7.7.7.6.6.5.5.4
464	1.	1.	2.	4.3.	9.2.4.7.0.2.3.0.0.2.2.2.2.2.2.2
465	1.	1.	2.	4.3.	9.2.5.6.2.1.2.0.2.2.2.2.2.2.2.2
466	1.	1.	2.	4.3.	9.2.5.6.0.1.2.0.2.2.2.2.2.2.2.2
467	1.	1.	2.	4.3.	9.3.1.5.1.1.2.0.2.2.2.2.2.2.2.2
468	1.	1.	2.	4.3.	9.3.1.5.1.1.2.0.7.7.7.6.6.5.5.4
469	1.	1.	2.	4.3.	9.3.4.6.1.1.2.0.2.2.2.2.2.2.2.2
470	1.	1.	2.	4.3.	9.3.4.6.0.1.2.0.2.2.2.2.2.2.2.2

(Continued)

USER IC ‡727   FILE - GERMNY   PAGE 0006

471	1.	1.	2.	4.3.	9.3.4.6.8.1.2.8.3.3.3.2.2.2.2.2
472	1.	1.	2.	4.3.	9.3.4.6.8.1.3.8.7.7.7.6.6.5.5.4
473	1.	1.	2.	4.3.	9.3.4.7.8.2.2.8.2.2.2.2.2.2.2.2
474	1.	1.	2.	4.3.	9.4.4.6.2.1.2.8.2.2.2.2.2.2.2.2
475	1.	1.	2.	4.3.	9.7.1.6.2.1.2.8.2.2.2.2.2.2.2.2
476	1.	1.	2.	4.3.11.1.5.1.1.1.2.1.1.1.1.1.1.1.2	
477	1.	1.	2.	4.3.11.2.3.7.8.2.2.8.6.2.2.2.2.2.2.2	
478	1.	1.	2.	4.3.11.2.4.7.8.2.2.8.2.2.2.2.2.2.2.2	
479	1.	1.	2.	4.3.11.2.4.7.8.2.2.8.3.3.3.2.2.2.2.2	
480	1.	1.	2.	4.3.11.2.4.7.8.2.2.8.7.7.7.6.6.5.5.4	
481	1.	1.	2.	4.3.11.2.1.6.2.1.4.1.1.1.1.1.1.1.2	
482	1.	1.	2.	4.3.11.2.1.6.2.1.2.8.2.2.2.2.2.2.2.2	
483	1.	1.	2.	4.3.13.1.3.6.8.1.2.8.2.2.2.2.2.2.2.2	
484	1.	1.	2.	4.3.13.1.4.7.8.2.2.8.2.2.2.2.2.2.2.2	
485	1.	1.	2.	4.3.13.1.4.7.8.2.2.8.3.3.3.2.2.2.2.2	
486	1.	1.	2.	4.3.13.2.1.6.2.1.4.1.1.1.1.1.1.1.2	
487	1.	1.	2.	4.3.14.1.3.1.1.1.2.8.2.2.2.2.2.2.2.2	
488	1.	1.	2.	4.3.14.1.3.1.1.1.2.8.3.3.3.2.2.2.2.2	
489	1.	1.	2.	4.3.14.1.4.6.6.1.2.8.2.2.2.2.2.2.2.2	
490	1.	1.	2.	4.3.14.1.5.1.1.1.2.8.2.2.2.2.2.2.2.2	
491	1.	1.	2.	4.3.14.1.5.1.1.1.2.8.4.4.4.4.4.4.3.2	
492	1.	1.	2.	4.3.14.1.5.1.1.1.2.8.5.5.5.2.2.2.2.2	
493	1.	1.	2.	4.3.14.1.5.1.1.1.2.8.5.5.5.5.5.5.5.2	
494	1.	1.	2.	4.3.14.1.5.1.1.1.2.8.7.2.2.2.2.2.2.4	
495	1.	1.	2.	4.3.14.1.5.1.8.1.2.8.2.2.2.2.2.2.2.2	
496	1.	1.	2.	4.3.14.1.5.6.1.1.2.8.2.2.2.2.2.2.2.2	
497	1.	1.	2.	4.3.14.1.5.6.1.1.2.8.6.6.6.6.6.5.5.4	
498	1.	1.	2.	4.3.14.1.5.6.8.1.2.8.2.2.2.2.2.2.2.2	
499	1.	1.	2.	4.3.14.2.5.5.1.1.2.8.2.2.2.2.2.2.2.2	
500	1.	1.	2.	4.3.14.3.5.1.1.1.2.8.2.2.2.2.2.2.2.2	
501	1.	1.	2.	4.3.14.3.5.5.1.1.2.8.2.2.2.2.2.2.2.2	
502	1.	1.	2.	4.3.14.3.5.6.8.1.2.8.2.2.2.2.2.2.2.2	
503	1.	1.	2.	4.3.14.7.1.6.2.1.4.1.1.1.1.1.1.1.2	
504	1.	1.	2.	4.3.14.7.1.6.3.1.4.1.1.1.1.1.1.1.2	
505	1.	1.	2.	4.3.14.7.1.6.3.1.2.8.7.7.7.6.6.5.5.4	
506	1.	1.	2.	4.4.	1.1.5.1.1.1.2.8.2.2.2.2.2.2.2.2
507	1.	1.	2.	4.4.	1.1.5.7.8.2.3.8.7.7.7.6.6.5.5.4
508	1.	1.	2.	4.4.	3.1.2.6.1.1.2.1.1.1.1.1.1.1.2
509	1.	1.	2.	4.4.	3.1.3.6.1.1.2.8.2.2.2.2.2.2.2.2
510	1.	1.	2.	4.4.	3.1.4.6.1.1.4.8.2.2.2.2.2.2.2.2
511	1.	1.	2.	4.4.	3.1.5.5.1.1.4.8.2.2.2.2.2.2.2.2
512	1.	1.	2.	4.4.	3.1.5.5.1.1.2.8.7.7.2.2.2.2.2.4
513	1.	1.	2.	4.4.	3.1.5.5.1.1.3.8.7.7.7.6.6.5.5.4
514	1.	1.	2.	4.4.	3.1.5.5.1.1.4.8.8.2.2.2.2.2.2.7
515	1.	1.	2.	4.4.	3.1.5.6.1.1.3.8.2.2.2.2.2.2.2.2
516	1.	1.	2.	4.4.	3.1.5.6.1.1.3.8.3.3.3.2.2.2.2.2
517	1.	1.	2.	4.4.	3.1.5.6.1.1.3.8.7.2.2.2.2.2.2.2
518	1.	1.	2.	4.4.	3.1.5.6.1.1.3.8.7.7.7.6.6.5.5.4
519	1.	1.	2.	4.4.	3.1.5.6.1.1.3.8.8.2.2.2.2.2.2.7
520	1.	1.	2.	4.4.	3.1.5.6.2.1.3.8.2.2.2.2.2.2.2.2
521	1.	1.	2.	4.4.	3.1.5.6.2.1.4.8.3.3.3.2.2.2.2.2
522	1.	1.	2.	4.4.	3.1.5.6.8.1.2.8.2.2.2.2.2.2.2.2
523	1.	1.	2.	4.4.	3.1.5.6.8.1.4.8.7.7.7.6.6.5.5.4
524	1.	1.	2.	4.4.	3.1.5.7.1.2.2.8.2.2.2.2.2.2.2.2
525	1.	1.	2.	4.4.	3.1.5.7.1.2.2.8.8.2.2.2.2.2.2.7
526	1.	1.	2.	4.4.	3.1.5.7.8.2.2.8.2.2.2.2.2.2.2.2
527	1.	1.	2.	4.4.	3.2.4.6.1.1.2.8.2.2.2.2.2.2.2.2
528	1.	1.	2.	4.4.	3.2.4.6.8.1.2.8.2.2.2.2.2.2.2.2
529	1.	1.	2.	4.4.	3.2.4.6.8.1.2.8.3.3.3.2.2.2.2.2
530	1.	1.	2.	4.4.	3.2.4.7.8.2.4.8.2.2.2.2.2.2.2.2
531	1.	1.	2.	4.4.	3.2.4.7.8.2.3.8.7.7.7.6.6.5.5.4
532	1.	1.	2.	4.4.	3.2.5.5.1.1.3.8.2.2.2.2.2.2.2.2
533	1.	1.	2.	4.4.	3.2.5.6.1.1.4.8.2.2.2.2.2.2.2.7
534	1.	1.	2.	4.4.	3.2.5.6.1.1.3.8.3.3.3.2.2.2.2.2
535	1.	1.	2.	4.4.	3.2.5.6.1.1.4.8.7.7.7.6.6.5.5.4
536	1.	1.	2.	4.4.	3.2.5.6.2.1.3.8.2.2.2.2.2.2.2.2
537	1.	1.	2.	4.4.	3.2.5.7.1.2.3.8.7.7.7.6.6.5.5.4
538	1.	1.	2.	4.4.	3.3.1.6.1.1.3.8.2.2.2.2.2.2.2.2
539	1.	1.	2.	4.4.	3.3.5.6.1.1.3.8.2.2.2.2.2.2.2.2
540	1.	1.	2.	4.4.	3.3.5.6.1.1.3.8.7.2.2.2.2.2.2.2
541	1.	1.	2.	4.4.	5.1.3.6.1.1.2.8.2.2.2.2.2.2.2.2
542	1.	1.	2.	4.4.	5.1.3.6.1.1.2.8.3.3.3.2.2.2.2.2
543	1.	1.	2.	4.4.	5.1.3.6.2.1.2.8.2.2.2.2.2.2.2.2
544	1.	1.	2.	4.4.	5.1.3.6.2.1.2.8.3.3.3.2.2.2.2.2
545	1.	1.	2.	4.4.	5.1.3.6.2.1.2.8.8.2.2.2.2.2.2.7
546	1.	1.	2.	4.4.	5.1.3.6.3.1.2.8.2.2.2.2.2.2.2.2
547	1.	1.	2.	4.4.	5.1.3.6.3.1.2.8.3.3.3.2.2.2.2.2
548	1.	1.	2.	4.4.	5.1.3.7.1.2.4.8.2.2.2.2.2.2.2.2
549	1.	1.	2.	4.4.	5.1.3.7.2.2.2.8.2.2.2.2.2.2.2.2
550	1.	1.	2.	4.4.	5.1.3.7.2.2.2.8.3.3.3.2.2.2.2.2
551	1.	1.	2.	4.4.	5.1.3.7.3.2.4.8.2.2.2.2.2.2.2.2
552	1.	1.	2.	4.4.	5.1.4.6.8.1.2.8.2.2.2.2.2.2.2.2
553	1.	1.	2.	4.4.	5.1.5.5.1.1.3.8.2.2.2.2.2.2.2.2
554	1.	1.	2.	4.4.	5.1.5.5.1.1.3.8.3.3.3.2.2.2.2.2
555	1.	1.	2.	4.4.	5.1.5.5.1.1.3.8.7.2.2.2.2.2.2.7
556	1.	1.	2.	4.4.	5.1.5.5.1.1.3.8.7.4.2.2.2.2.2.2
557	1.	1.	2.	4.4.	5.1.5.5.1.1.3.8.7.7.7.6.6.5.5.4
558	1.	1.	2.	4.4.	5.1.5.6.1.1.2.8.2.2.2.2.2.2.2.2
559	1.	1.	2.	4.4.	5.1.5.6.1.1.4.8.3.3.3.2.2.2.2.2
560	1.	1.	2.	4.4.	5.1.5.6.1.1.3.8.7.3.2.2.2.2.2.4
561	1.	1.	2.	4.4.	5.1.5.6.1.1.3.8.7.7.2.2.2.2.2.4
562	1.	1.	2.	4.4.	5.1.5.6.1.1.2.8.7.7.7.2.2.2.2.4
563	1.	1.	2.	4.4.	5.1.5.6.1.1.3.8.7.7.7.6.6.5.5.4
564	1.	1.	2.	4.4.	5.1.5.6.2.1.2.8.2.2.2.2.2.2.2.2
565	1.	1.	2.	4.4.	5.1.5.6.2.1.2.8.3.3.3.2.2.2.2.2
566	1.	1.	2.	4.4.	5.1.5.6.8.1.2.8.2.2.2.2.2.2.2.2
567	1.	1.	2.	4.4.	5.1.5.7.1.2.3.8.2.2.2.2.2.2.2.2
568	1.	1.	2.	4.4.	5.1.5.7.2.2.2.8.2.2.2.2.2.2.2.2
569	1.	1.	2.	4.4.	5.1.5.7.2.2.2.8.3.3.3.2.2.2.2.2
570	1.	1.	2.	4.4.	5.1.5.7.2.2.2.8.7.7.7.6.6.5.5.4

(Continued)

Table A14 (Continued)

USER ID F727   FILE - GENMNY   PAGE 0007

```
571 1. 1. 2. 4.4. 5.1.5.7.8.2.4.8.2.2.2.2.2.2.2.2
572 1. 1. 2. 4.4. 5.1.5.7.8.2.2.8.3.3.3.2.2.2.2.2
573 1. 1. 2. 4.4. 5.2.3.6.8.1.4.8.3.3.3.2.2.2.2.2
574 1. 1. 2. 4.4. 5.[illegible].3.7.8.2.3.8.2.2.2.2.2.2.2.2
575 1. 1. 2. 4.4. 5.2.4.6.1.1.2.8.3.3.3.2.2.2.2.2
576 1. 1. 2. 4.4. 5.2.5.5.1.1.3.8.7.7.7.6.6.5.5.4
577 1. 1. 2. 4.4. 5.2.5.6.1.1.3.8.7.2.2.2.2.2.2.2
578 1. 1. 2. 4.4. 5.2.5.6.1.1.4.8.3.3.3.2.2.2.2.2
579 1. 1. [illegible] 4.4. 5.2.5.6.1.1.3.8.7.7.2.2.2.2.2.4
580 1. 1. 2. 4.4. 5.2.5.6.1.1.3.8.7.7.7.6.6.5.5.4
581 1. 1. 2. 4.4. 5.2.5.6.2.1.3.8.2.2.2.2.2.2.2.2
582 1. 1. 2. 4.4. 5.2.5.6.2.1.4.8.3.3.3.2.2.2.2.2
583 1. 1. [illegible] 4.4. 5.2.5.6.2.1.3.8.7.7.7.6.6.5.5.4
584 1. 1. 2. 4.4. 5.2.5.6.8.1.2.8.2.2.2.2.2.2.2.2
585 1. 1. 2. 4.4. 5.2.5.6.8.1.3.8.3.3.3.2.2.2.2.2
586 1. 1. 2. 4.4. 5.2.5.7.2.2.2.8.2.2.2.2.2.2.2.2
587 1. 1. 2. 4.4. 5.2.5.7.2.2.2.8.3.3.3.2.2.2.2.2
588 1. 1. 2. 4.4. 5.2.5.7.8.2.4.8.2.2.2.2.2.2.2.2
589 1. 1. 2. 4.4. 5.2.5.7.8.2.4.8.3.3.3.2.2.2.2.2
590 1. 1. 2. 4.4. 5.3.3.5.1.1.2.8.2.2.2.2.2.2.2.2
591 1. 1. 2. 4.4. 5.3.4.6.2.1.3.8.3.3.3.2.2.2.2.2
592 1. 1. 2. 4.4. 5.3.5.1.8.1.4.8.2.2.2.2.2.2.2.2
593 1. 1. 2. 4.4. 5.3.5.5.1.1.4.8.7.2.2.2.2.2.2.5
594 1. 1. 2. 4.4. 5.3.5.5.2.1.2.8.4.4.4.4.2.2.2.2
595 1. 1. 2. 4.4. 5.3.5.6.1.1.3.8.2.2.2.2.2.2.2.2
596 1. 1. 2. 4.4. 5.3.5.6.1.1.4.8.5.5.5.2.2.2.2.2
597 1. 1. 2. 4.4. 5.3.5.6.2.1.4.8.2.2.2.2.2.2.2.2
598 1. 1. 2. 4.4. 5.3.5.6.2.1.2.8.3.3.3.2.2.2.2.2
599 1. 1. 2. 4.4. 5.4.3.5.1.1.2.8.2.2.2.2.2.2.2.2
600 1. 1. 2. 4.4. 5.4.3.5.1.1.2.8.4.4.4.3.2.2.2.5
601 1. 1. 2. 4.4. 7.1.1.5.1.1.3.8.7.7.7.6.6.5.5.4
602 1. 1. 2. 4.4. 7.1.1.6.1.1.3.8.2.2.2.2.2.2.2.2
603 1. 1. 2. 4.4. 7.1.3.6.1.1.4.8.2.2.2.2.2.2.2.2
604 1. 1. 2. 4.4. 7.1.3.8.1.1.4.8.3.3.3.2.2.2.2.2
605 1. 1. 2. 4.4. 7.1.3.6.2.1.3.8.2.2.2.2.2.2.2.2
606 1. 1. 2. 4.4. 7.1.5.1.1.1.4.8.2.2.2.2.2.2.2.2
607 1. 1. 2. 4.4. 7.1.5.5.2.1.2.8.2.2.2.2.2.2.2.2
608 1. 1. 2. 4.4. 7.1.5.5.2.1.2.8.3.3.3.2.2.2.2.2
609 1. 1. 2. 4.4. 7.1.5.6.1.1.2.8.3.3.3.2.2.2.2.2
610 1. 1. 2. 4.4. 7.[illegible].1.6.1.1.3.8.2.2.2.2.2.2.2.2
611 1. 1. 2. 4.4. 7.2.5.7.1.2.2.8.2.2.2.2.2.2.2.2
612 1. 1. 2. 4.4. 7.2.5.7.2.2.2.8.2.2.2.2.2.2.2.2
613 1. 1. 2. 4.4. 7.3.1.5.1.1.4.1.1.1.1.1.1.1.1.2
614 1. 1. 2. 4.4. 7.3.1.5.1.1.3.8.2.2.2.2.2.2.2.2
615 1. 1. 2. 4.4. 7.3.1.5.1.1.3.8.2.2.2.2.2.2.2.6
616 1. 1. 2. 4.4. 7.3.1.5.1.1.3.8.3.3.3.2.2.2.2.2
617 1. 1. 2. 4.4. 7.3.1.5.1.1.2.8.4.4.2.2.2.2.2.2
618 1. 1. 2. 4.4. 7.3.1.5.1.1.3.8.4.4.4.4.4.4.4.2
619 1. 1. 2. 4.4. 7.3.1.5.1.1.3.8.5.4.2.2.2.2.2.6
620 1. 1. 2. 4.4. 7.3.1.5.1.1.2.8.6.6.6.5.3.2.2.2
621 1. 1. 2. 4.4. 7.3.1.5.1.1.3.8.7.2.2.2.2.2.2.2
622 1. 1. 2. 4.4. 7.3.1.5.1.1.4.8.7.2.2.2.2.2.2.4
623 1. 1. 2. 4.4. 7.3.1.5.1.1.3.8.7.2.2.2.2.2.2.7
624 1. 1. 2. 4.4. 7.3.1.5.1.1.3.8.7.5.2.2.2.2.2.6
625 1. 1. 2. 4.4. 7.3.1.5.1.1.3.8.7.7.2.2.2.2.2.4
626 1. 1. 2. 4.4. 7.3.1.5.1.1.3.8.7.7.2.2.2.2.2.6
627 1. 1. 2. 4.4. 7.3.1.5.1.1.3.8.7.7.4.2.2.2.2.4
628 1. 1. 2. 4.4. 7.3.1.[illegible].1.1.3.8.7.7.7.2.2.2.2.4
629 1. 1. 2. 4.4. 7.3.1.5.1.1.3.8.7.7.7.2.2.2.2.5
630 1. 1. 2. 4.4. 7.3.1.5.1.1.3.8.7.7.7.2.2.2.2.6
631 1. 1. 2. 4.4. 7.3.1.5.1.1.3.8.7.7.7.6.6.2.2.2
632 1. 1. 2. 4.4. 7.3.1.5.1.1.3.8.7.7.7.6.6.2.2.4
633 1. 1. 2. 4.4. 7.3.1.5.1.1.3.8.7.7.7.6.6.5.5.2
634 1. 1. 2. 4.4. 7.3.1.5.1.1.3.8.7.7.7.6.6.5.5.4
635 1. 1. 2. 4.4. 7.3.1.5.1.1.3.8.7.7.7.6.6.5.5.6
636 1. 1. 2. 4.4. 7.3.1.6.1.1.4.8.2.2.2.2.2.2.2.2
637 1. 1. 2. 4.4. 7.3.1.6.1.1.3.8.3.3.3.2.2.2.2.2
638 1. 1. 2. 4.4. 7.3.1.6.1.1.3.8.7.7.7.6.6.5.5.4
639 1. 1. 2. 4.4. 7.3.3.5.1.1.2.8.2.2.2.2.2.2.2.2
640 1. 1. 2. 4.4. 7.3.3.5.1.1.2.8.3.3.3.2.2.2.2.4
641 1. 1. 2. 4.4. 7.3.3.5.1.1.2.8.7.7.7.6.6.5.5.4
642 1. 1. 2. 4.4. 7.3.3.6.1.1.4.8.3.3.3.2.2.2.2.2
643 1. 1. 2. 4.4. 7.3.5.5.1.1.4.8.2.2.2.2.2.2.2.2
644 1. 1. 2. 4.4. 7.3.5.5.1.1.4.8.4.4.4.2.2.2.2.2
645 1. 1. 2. 4.4. 7.3.5.5.1.1.4.8.7.7.7.6.6.5.5.4
646 1. 1. 2. 4.4. 7.3.5.6.1.1.4.8.4.4.4.2.2.2.2.2
647 1. 1. 2. 4.4. 7.3.5.6.1.1.4.8.5.5.5.2.2.2.2.2
648 1. 1. 2. 4.4. 7.3.5.7.2.2.2.8.2.2.2.2.2.2.2.2
649 1. 1. 2. 4.4. 7.4.1.5.1.1.3.8.7.7.7.6.6.5.5.4
650 1. 1. 2. 4.4. 8.5.1.6.3.1.4.1.1.1.1.1.1.1.1.2
651 1. 1. 2. 4.4. 9.1.4.1.8.1.2.8.2.2.2.2.2.2.2.2
652 1. 1. 2. 4.4. 9.1.4.6.1.1.2.8.2.2.2.2.2.2.2.2
653 1. 1. 2. 4.4. 9.1.4.6.2.1.2.8.2.2.2.2.2.2.2.2
654 1. 1. 2. 4.4. 9.1.4.6.2.1.3.8.3.3.3.2.2.2.2.2
655 1. 1. 2. 4.4. 9.1.4.6.2.1.3.8.7.7.7.6.6.5.5.4
656 1. 1. 2. 4.4. 9.1.4.6.8.1.2.8.2.2.2.2.2.2.2.2
657 1. 1. 2. 4.4. 9.1.4.6.8.1.4.8.3.3.3.2.2.2.2.2
658 1. 1. 2. 4.4. 9.1.4.6.8.1.2.8.8.2.2.2.2.2.2.2
659 1. 1. 2. 4.4. 9.1.4.7.2.2.2.8.2.2.2.2.2.2.2.2
660 1. 1. 2. 4.4. 9.1.4.7.2.2.2.8.3.3.3.2.2.2.2.2
661 1. 1. 2. 4.4. 9.1.4.7.2.2.2.8.4.4.2.2.2.2.2.2
662 1. 1. 2. 4.4. 9.1.4.7.8.2.2.8.2.2.2.2.2.2.2.2
663 1. 1. 2. 4.4. 9.2.1.5.1.1.3.8.2.2.2.2.3.2.2.2
664 1. 1. 2. 4.4. 9.2.3.6.8.1.2.8.2.2.2.2.2.2.2.2
665 1. 1. 2. 4.4. 9.2.3.6.8.1.2.8.3.3.3.2.2.2.2.2
666 1. 1. 2. 4.4. 9.2.3.6.8.1.3.8.3.3.3.3.3.2.2.2
667 1. 1. 2. 4.4. 9.2.4.1.8.1.2.8.2.2.2.2.2.2.2.2
668 1. 1. 2. 4.4. 9.2.4.6.1.1.3.8.2.2.2.2.2.2.2.2
669 1. 1. 2. 4.4. 9.2.4.6.1.1.2.8.5.5.5.2.2.2.2.2
670 1. 1. 2. 4.4. 9.2.4.6.2.1.4.8.2.2.2.2.2.2.2.2
```

(Continued)

Table A14 (Continued)

USER IC F727 FILE - GERMNY PAGE 0008

671	1.	1.	2.	4.4.	9.2.4.6.2.1.4.0.3.3.3.2.2.2.2.2
672	1.	1.	2.	4.4.	9.2.4.6.0.1.4.1.1.1.1.1.1.1.1.2
673	1.	1.	2.	4.4.	9.2.4.6.0.1.2.0.2.2.2.2.2.2.2.2
674	1.	1.	2.	4.4.	9.2.4.6.0.1.4.0.3.3.3.2.2.2.2.2
675	1.	1.	2.	4.4.	9.2.4.6.0.1.2.0.7.7.2.2.2.2.2.4
676	1.	1.	2.	4.4.	9.2.4.6.0.1.2.0.7.7.7.2.2.2.2.4
677	1.	1.	2.	4.4.	9.2.4.6.0.1.2.0.7.7.7.6.6.5.5.4
678	1.	1.	2.	4.4.	9.2.4.6.0.1.2.0.0.2.2.2.2.2.2.2
679	1.	1.	2.	4.4.	9.2.4.7.2.2.2.0.2.2.2.2.2.2.2.2
680	1.	1.	2.	4.4.	9.2.4.7.2.2.2.0.3.3.3.2.2.2.2.2
681	1.	1.	2.	4.4.	9.2.4.7.0.2.2.0.2.2.2.2.2.2.2.2
682	1.	1.	2.	4.4.	9.2.4.7.0.2.2.0.3.3.3.2.2.2.2.2
683	1.	1.	2.	4.4.	9.2.4.7.0.2.2.0.4.4.4.4.2.2.2.2
684	1.	1.	2.	4.4.	9.2.4.7.0.2.2.0.5.5.5.2.2.2.2.2
685	1.	1.	2.	4.4.	9.2.4.7.0.2.2.0.6.6.6.5.3.2.2.2
686	1.	1.	2.	4.4.	9.2.4.7.0.2.2.0.7.7.7.6.6.5.5.4
687	1.	1.	2.	4.4	[illegible].4.0.1.2.0.2.2.2.2.2.2.2.2
688	1.	1.	2.	4.4.	9.2.5.7.2.2.2.0.2.2.2.2.2.2.2.2
689	1.	1.	2.	4.4.	9.3.1.5.1.1.2.0.2.2.2.2.2.2.2.2
690	1.	1.	2.	4.4.	9.3.4.5.1.1.2.0.2.2.2.2.2.2.2.2
691	1.	1.	2.	4.4.	9.3.4.6.1.1.2.0.2.2.2.2.2.2.2.2
692	1.	1.	2.	4.4.	9.3.4.6.0.1.2.0.2.2.2.2.2.2.2.2
693	1.	1.	2.	4.4.	9.3.4.6.0.1.2.0.3.3.3.2.2.2.2.2
694	1.	1.	2.	4.4.	9.4.1.5.1.1.3.0.7.7.7.6.6.5.5.4
695	1.	1.	2.	4.4.	9.4.4.6.0.1.4.0.2.2.2.2.2.2.2.2
696	1.	1.	2.	4.4.	11.1.5.1.1.1.4.1.1.1.1.1.1.1.2
697	1.	1.	2.	4.4.	11.2.3.6.0.1.2.0.2.2.2.2.2.2.2.2
698	1.	1.	2.	4.4.	11.2.3.7.0.2.2.0.3.3.3.2.2.2.2.2
699	1.	1.	2.	4.4.	11.3.5.7.0.2.4.0.2.2.2.2.2.2.2.2
700	1.	1.	2.	4.4.	11.7.1.6.2.1.4.1.1.1.1.1.1.1.2
701	1.	1.	2.	4.4.	13.1.3.6.0.1.2.0.2.2.2.2.2.2.2.2
702	1.	1.	2.	4.4.	13.7.1.6.2.1.4.1.1.1.1.1.1.1.2
703	1.	1.	2.	4.4.	14.1.4.6.1.1.2.0.2.2.2.2.2.2.2.2
704	1.	1.	2.	4.4.	14.1.5.1.1.1.2.0.2.2.2.2.2.2.2.2
705	1.	1.	2.	4.4.	14.1.5.1.1.1.4.0.3.3.3.2.2.2.2.2
706	1.	1.	2.	4.4.	14.1.5.1.1.1.4.0.4.4.4.4.4.4.3.2
707	1.	1.	2.	4.4.	14.1.5.1.1.1.2.0.5.5.5.4.4.3.3.2
708	1.	1.	2.	4.4.	14.1.5.1.2.1.2.0.2.2.2.2.2.2.2.2
709	1.	1.	2.	4.4.	14.1.5.1.8.1.4.0.2.2.2.2.2.2.2.2
710	1.	1.	2.	4.4.	14.1.5.5.1.1.2.0.2.2.2.2.2.2.2.2
711	1.	1.	2.	4.4.	14.1.5.5.1.1.2.0.7.7.7.6.6.5.5.2
712	1.	1.	2.	4.4.	14.1.5.6.1.1.2.0.2.2.2.2.2.2.2.2
713	1.	1.	2.	4.4.	14.1.5.6.1.1.2.0.7.7.7.6.6.5.5.4
714	1.	1.	2.	4.4.	14.1.5.6.8.1.2.0.2.2.2.2.2.2.2.2
715	1.	1.	2.	4.4.	14.2.5.1.1.1.4.0.2.2.2.2.2.2.2.2
716	1.	1.	2.	4.4.	14.2.5.6.1.1.4.0.2.2.2.2.2.2.2.2
717	1.	1.	2.	4.4.	14.2.5.6.0.1.2.0.2.2.2.2.2.2.2.2
718	1.	1.	2.	4.4.	14.2.5.7.1.2.2.0.2.2.2.2.2.2.2.2
719	1.	1.	2.	4.4.	14.3.5.1.1.1.4.0.2.2.2.2.2.2.2.2
720	1.	1.	2.	4.4.	14.3.5.5.1.1.2.0.2.2.2.2.2.2.2.2
721	1.	1.	2.	4.4.	14.3.5.5.1.1.2.0.4.4.4.2.2.2.2.2
722	1.	1.	2.	4.4.	14.7.1.6.2.1.4.1.1.1.1.1.1.1.2
723	1.	1.	2.	4.4.	14.7.1.6.3.1.4.1.1.1.1.1.1.1.2
724	1.	1.	2.	4.4.	14.7.1.6.3.1.2.0.3.2.2.2.2.2.2.2
725	1.	1.	2.	4.5.	1.1.5.6.1.1.4.0.2.2.2.2.2.2.2.2
726	1.	1.	2.	4.5.	3.1.3.6.1.1.2.0.2.2.2.2.2.2.2.2
727	1.	1.	2.	4.5.	3.1.4.6.1.1.2.0.2.2.2.2.2.2.2.2
728	1.	1.	2.	4.5.	3.1.4.7.1.2.4.0.2.2.2.2.2.2.2.2
729	1.	1.	2.	4.5.	3.1.5.5.1.1.2.0.2.2.2.2.2.2.2.2
730	1.	1.	2.	4.5.	3.1.5.5.1.1.2.0.7.7.7.6.6.5.5.4
731	1.	1.	2.	4.5.	3.1.5.6.1.1.2.0.2.2.2.2.2.2.2.2
732	1.	1.	2.	4.5.	3.1.5.6.1.1.3.0.2.2.2.2.2.2.2.4
733	1.	1.	2.	4.5.	3.1.5.6.1.1.3.0.7.2.2.2.2.2.2.2
734	1.	1.	2.	4.5.	3.1.5.6.1.1.2.0.7.7.4.2.2.2.2.4
735	1.	1.	2.	4.5.	3.1.5.6.1.1.4.0.7.7.7.6.6.5.5.4
736	1.	1.	2.	4.5.	3.1.5.6.2.1.4.0.2.2.2.2.2.2.2.2
737	1.	1.	2.	4.5.	3.1.5.6.2.1.4.0.3.3.3.2.2.2.2.2
738	1.	1.	2.	4.5.	3.1.5.6.0.1.3.0.2.2.2.2.2.2.2.2
739	1.	1.	2.	4.5.	3.1.5.6.0.1.3.0.7.7.7.6.6.5.5.4
740	1.	1.	2.	4.5.	3.1.5.7.1.2.2.0.2.2.2.2.2.2.2.2
741	1.	1.	2.	4.5.	3.2.4.6.0.1.2.0.2.2.2.2.2.2.2.2
742	1.	1.	2.	4.5.	3.2.4.6.0.1.3.0.7.7.7.6.6.5.5.4
743	1.	1.	2.	4.5.	3.2.4.7.0.2.3.0.2.2.2.2.2.2.2.2
744	1.	1.	2.	4.5.	3.2.5.6.1.1.3.0.2.2.2.2.2.2.2.2
745	1.	1.	2.	4.5.	3.2.5.6.1.1.3.0.7.7.7.6.6.5.5.4
746	1.	1.	2.	4.5.	3.2.5.6.2.1.2.0.3.3.3.2.2.2.2.2
747	1.	1.	2.	4.5.	3.2.5.6.0.1.3.0.2.2.2.2.2.2.2.2
748	1.	1.	2.	4.5.	3.2.5.6.0.1.2.0.3.3.3.2.2.2.2.2
749	1.	1.	2.	4.5.	3.2.5.7.1.2.4.0.2.2.2.2.2.2.2.2
750	1.	1.	2.	4.5.	3.2.5.7.1.2.4.0.3.3.3.2.2.2.2.2
751	1.	1.	2.	4.5.	3.3.5.6.1.1.3.0.2.2.2.2.2.2.2.2
752	1.	1.	2.	4.5.	5.1.1.5.1.1.3.0.2.2.2.2.2.2.2.2
753	1.	1.	2.	4.5.	5.1.3.6.1.1.3.0.2.2.2.2.2.2.2.2
754	1.	1.	2.	4.5.	5.1.3.6.1.1.4.0.3.3.3.2.2.2.2.2
755	1.	1.	2.	4.5.	5.1.3.6.1.1.3.0.7.7.7.6.6.5.5.4
756	1.	1.	2.	4.5.	5.1.3.6.2.1.2.0.2.2.2.2.2.2.2.2
757	1.	1.	2.	4.5.	5.1.3.6.2.1.2.0.3.3.3.2.2.2.2.2
758	1.	1.	2.	4.5.	5.1.4.6.0.1.3.0.2.2.2.2.2.2.2.2
759	1.	1.	2.	4.5.	5.1.4.6.0.1.2.0.7.7.7.6.6.5.5.4
760	1.	1.	2.	4.5.	5.1.5.5.1.1.3.0.2.2.2.2.2.2.2.2
761	1.	1.	2.	4.5.	5.1.5.6.1.1.2.0.2.2.2.2.2.2.2.2
762	1.	1.	2.	4.5.	5.1.5.6.1.1.4.0.3.3.3.2.2.2.2.2
763	1.	1.	2.	4.5.	5.1.5.6.1.1.2.0.7.7.7.2.2.2.2.4
764	1.	1.	2.	4.5.	5.1.5.6.1.1.3.0.7.7.7.6.6.5.5.4
765	1.	1.	2.	4.5.	5.1.5.6.2.1.4.0.2.2.2.2.2.2.2.2
766	1.	1.	2.	4.5.	5.1.5.6.2.1.4.0.3.3.3.2.2.2.2.2
767	1.	1.	2.	4.5.	5.1.5.6.2.1.4.0.7.7.7.6.6.5.5.2
768	1.	1.	2.	4.5.	5.1.5.6.2.1.2.0.7.7.7.6.6.5.5.4
769	1.	1.	2.	4.5.	5.1.5.6.0.1.2.0.2.2.2.2.2.2.2.2
770	1.	1.	2.	4.5.	5.1.5.7.1.2.4.0.2.2.2.2.2.2.2.2

(Continued)

87

Table A14 (Continued)

USER ID F727 FILE - GERMNY PAGE 0089

771	1.	1.	2.	4.5,	5.1.5.7.2.2.2.8.2.2.2.2.2.2.2.2
772	1.	1.	2.	4.5,	5.1.5.7.2.2.2.8.3.3.3.2.2.2.2.2
773	1.	1.	2.	4.5,	5.1.5.7.8.2.2.8.2.2.2.2.2.2.2.2
774	1.	1.	2.	4.5,	5.2.3.7.8.2.2.8.2.2.2.2.2.2.2.2
775	1.	1.	2.	4.5,	5.2.3.7.8.2.3.8.3.3.3.2.2.2.2.2
776	1.	1.	2.	4.5,	5.2.5.6.1.1.4.8.2.2.2.2.2.2.2.2
777	1.	1.	2.	4.5,	5.2.5.6.2.1.4.8.2.2.2.2.2.2.2.2
778	1.	1.	2.	4.5,	5.2.5.6.2.1.4.8.3.3.3.2.2.2.2.2
779	1.	1.	2.	4.5,	5.2.5.6.2.1.3.8.7.7.7.6.6.5.5.4
780	1.	1.	2.	4.5,	5.2.5.6.8.1.2.8.2.2.2.2.2.2.2.2
781	1.	1.	2.	4.5,	5.2.5.7.2.2.2.8.3.3.3.2.2.2.2.2
782	1.	1.	2.	4.5,	5.2.5.7.2.2.2.8.4.4.2.2.2.2.2.2
783	1.	1.	2.	4.5,	5.2.5.7.8.2.2.8.2.2.2.2.2.2.2.2
784	1.	1.	2.	4.5,	5.2.5.7.8.2.4.8.3.3.3.2.2.2.2.2
785	1.	1.	2.	4.5,	5.2.5.7.8.2.2.8.4.4.4.2.2.2.2.2
786	1.	1.	2.	4.5,	5.3.3.5.1.1.2.8.2.2.2.2.2.2.2.2
787	1.	1.	2.	4.5,	5.3.3.5.1.1.4.8.7.7.7.4.4.4.4.2
788	1.	1.	2.	4.5,	5.3.4.6.2.1.2.8.2.2.2.2.2.2.2.2
789	1.	1.	2.	4.5,	5.3.4.6.2.1.2.8.3.3.3.2.2.2.2.2
790	1.	1.	2.	4.5,	5.3.5.5.1.1.3.8.2.2.2.2.2.2.2.2
791	1.	1.	2.	4.5,	5.3.5.6.1.1.3.8.2.2.2.2.2.2.2.2
792	1.	1.	2.	4.5,	5.3.5.6.2.1.4.8.2.2.2.2.2.2.2.2
793	1.	1.	2.	4.5,	5.3.5.6.2.1.4.8.3.3.3.2.2.2.2.2
794	1.	1.	2.	4.5,	5.3.5.6.2.1.4.8.4.4.4.2.2.2.2.2
795	1.	1.	2.	4.5,	5.3.5.6.8.1.2.8.2.2.2.2.2.2.2.2
796	1.	1.	2.	4.5,	5.4.3.5.1.1.3.8.2.2.2.2.2.2.2.2
797	1.	1.	2.	4.5,	5.4.3.5.1.1.3.8.4.4.4.3.2.2.2.5
798	1.	1.	2.	4.5,	7.1.5.5.1.1.3.8.7.4.2.2.2.2.2.2
799	1.	1.	2.	4.5,	7.1.5.6.1.1.3.8.7.7.7.6.6.5.5.4
800	1.	1.	2.	4.5,	7.2.1.5.1.1.3.8.7.7.4.2.2.2.2.4
801	1.	1.	2.	4.5,	7.2.1.5.1.1.3.8.7.7.4.2.2.2.2.6
802	1.	1.	2.	4.5,	7.2.1.5.1.1.3.8.7.7.7.6.6.5.5.6
803	1.	1.	2.	4.5,	7.2.5.6.8.1.2.8.2.2.2.2.2.2.2.2
804	1.	1.	2.	4.5,	7.2.5.7.1.2.3.8.2.2.2.2.2.2.2.2
805	1.	1.	2.	4.5,	7.3.1.5.1.1.4.1.1.1.1.1.1.1.1.2
806	1.	1.	2.	4.5,	7.3.1.5.1.1.3.8.2.2.2.2.2.2.2.2
807	1.	1.	2.	4.5,	7.3.1.5.1.1.3.8.2.2.2.2.2.2.2.4
808	1.	1.	2.	4.5,	7.3.1.5.1.1.3.8.2.2.2.2.2.2.2.6
809	1.	1.	2.	4.5,	7.3.1.5.1.1.3.8.4.4.2.2.2.2.2.2
810	1.	1.	2.	4.5,	7.3.1.5.1.1.3.8.5.4.2.2.2.2.2.6
811	1.	1.	2.	4.5,	7.3.1.5.1.1.4.8.7.2.2.2.2.2.2.4
812	1.	1.	2.	4.5,	7.3.1.5.1.1.3.8.7.7.2.2.2.2.2.4
813	1.	1.	2.	4.5,	7.3.1.5.1.1.3.8.7.7.2.2.2.2.2.6
814	1.	1.	2.	4.5,	7.3.1.5.1.1.3.8.7.7.4.2.2.2.2.4
815	1.	1.	2.	4.5,	7.3.1.5.1.1.4.8.7.7.7.2.2.2.2.4
816	1.	1.	2.	4.5,	7.3.1.5.1.1.3.8.7.7.7.2.2.2.2.5
817	1.	1.	2.	4.5,	7.3.1.5.1.1.4.8.7.7.7.6.6.2.2.4
818	1.	1.	2.	4.5,	7.3.1.5.1.1.3.8.7.7.7.6.6.5.5.2
819	1.	1.	2.	4.5,	7.3.1.5.1.1.3.8.7.7.7.6.6.5.5.4
820	1.	1.	2.	4.5,	7.3.1.5.1.1.4.8.7.7.7.6.6.5.5.6
821	1.	1.	2.	4.5,	7.3.1.6.1.1.2.8.2.2.2.2.2.2.2.2
822	1.	1.	2.	4.5,	7.3.1.6.1.1.3.8.6.6.6.5.5.4.4.5
823	1.	1.	2.	4.5,	7.3.3.5.1.1.2.8.2.2.2.2.2.2.2.2
824	1.	1.	2.	4.5,	7.3.3.5.1.1.[illegible].8.7.7.7.6.6.5.5.4
825	1.	1.	2.	4.5,	7.3.3.6.1.1.4.8.2.2.2.2.2.2.2.2
826	1.	1.	2.	4.5,	7.3.3.6.1.1.4.8.3.3.3.2.2.2.2.2
827	1.	1.	2.	4.5,	7.3.5.5.1.1.2.8.4.4.4.2.2.2.2.2
828	1.	1.	2.	4.5,	7.3.5.5.1.1.3.8.7.7.3.2.2.2.2.4
829	1.	1.	2.	4.5,	7.3.5.6.1.1.3.8.5.5.5.2.2.2.2.2
830	1.	1.	2.	4.5,	9.1.4.6.1.1.2.8.2.2.2.2.2.2.2.2
831	1.	1.	2.	4.5,	9.1.4.6.1.1.2.8.7.7.7.6.6.5.5.4
832	1.	1.	2.	4.5,	9.1.4.6.2.1.3.8.2.2.2.2.2.2.2.2
833	1.	1.	2.	4.5,	9.1.4.6.2.1.2.8.3.3.3.2.2.2.2.2
834	1.	1.	2.	4.5,	9.1.4.6.2.1.3.8.7.7.7.6.6.5.5.4
835	1.	1.	2.	4.5,	9.1.4.6.8.1.2.8.2.2.2.2.2.2.2.2
836	1.	1.	2.	4.5,	9.1.4.6.8.1.4.8.3.3.3.2.2.2.2.2
837	1.	1.	2.	4.5,	9.2.1.6.1.1.3.8.2.2.2.2.2.2.2.2
838	1.	1.	2.	4.5,	9.2.4.5.8.1.3.8.3.3.3.2.2.2.2.2
839	1.	1.	2.	4.5,	9.2.4.6.2.1.4.8.3.3.3.2.2.2.2.2
840	1.	1.	2.	4.5,	9.2.4.6.8.1.2.8.2.2.2.2.2.2.2.2
841	1.	1.	2.	4.5,	9.2.4.6.8.1.4.8.3.3.3.2.2.2.2.2
842	1.	1.	2.	4.5,	9.2.4.6.8.1.2.8.3.3.3.3.3.2.2.2
843	1.	1.	2.	4.5,	9.2.4.6.8.1.2.8.7.7.7.8.2.2.2.4
844	1.	1.	2.	4.5,	9.2.4.6.8.1.2.8.7.7.7.6.6.5.5.4
845	1.	1.	2.	4.5,	9.2.4.6.8.1.4.8.8.2.2.2.2.2.2.2
846	1.	1.	2.	4.5,	9.2.4.7.8.2.2.8.2.2.2.2.2.2.2.2
847	1.	1.	2.	4.5,	9.2.4.7.8.2.2.8.3.3.3.2.2.2.2.2
848	1.	1.	2.	4.5,	9.2.4.7.8.2.2.8.4.4.2.2.2.2.2.2
849	1.	1.	2.	4.5,	9.2.4.7.8.2.3.8.4.4.4.3.2.2.2.5
850	1.	1.	2.	4.5,	9.2.4.7.8.2.2.8.4.4.4.4.4.4.4.2
851	1.	1.	2.	4.5,	9.2.4.7.8.2.2.8.5.5.5.2.2.2.2.2
852	1.	1.	2.	4.5,	9.2.4.7.8.2.2.8.7.7.7.6.6.5.5.4
853	1.	1.	2.	4.5,	9.3.4.5.1.1.2.8.2.2.2.2.2.2.2.2
854	1.	1.	2.	4.5,	9.3.4.6.8.1.2.8.2.2.2.2.2.2.2.2
855	1.	1.	2.	4.5,	9.3.4.6.8.1.2.8.3.3.3.2.2.2.2.2
856	1.	1.	2.	4.5,	9.3.4.7.8.2.2.8.3.3.3.2.2.2.2.2
857	1.	1.	2.	4.5,	9.3.4.7.8.2.2.8.7.7.7.6.6.5.5.4
858	1.	1.	2.	4.5,	9.4.4.7.8.2.4.8.2.2.2.2.2.2.2.2
859	1.	1.	2.	4.5,	9.4.4.7.8.2.2.8.3.3.3.2.2.2.2.2
860	1.	1.	2.	4.5,	11.2.3.7.8.2.4.8.3.3.3.2.2.2.2.2
861	1.	1.	2.	4.5,	11.3.5.7.8.2.4.8.2.2.2.2.2.2.2.2
862	1.	1.	2.	4.5,	11.7.1.6.2.1.4.1.1.1.1.1.1.1.1.2
863	1.	1.	2.	4.5,	13.1.4.6.8.1.2.8.2.2.2.2.2.2.2.2
864	1.	1.	2.	4.5,	13.1.5.6.1.1.4.8.2.2.2.2.2.2.2.2
865	1.	1.	2.	4.5,	13.7.1.6.2.1.4.1.1.1.1.1.1.1.1.2
866	1.	1.	2.	4.5,	14.1.3.6.2.1.2.8.2.2.2.2.2.2.2.2
867	1.	1.	2.	4.5,	14.1.4.6.1.1.3.8.3.3.3.2.2.2.2.2
868	1.	1.	2.	4.5,	14.1.5.1.1.1.2.8.2.2.2.2.2.2.2.2
869	1.	1.	2.	4.5,	14.1.5.1.1.1.3.8.3.3.3.2.2.2.2.2
870	1.	1.	2.	4.5,	1[illegible].1.5.1.1.1.2.8.4.4.4.4.4.4.3.2

(Continued)

Table A1- (Continued)

USER ID F727 FILE - GERMNY PAGE 0018

871	1.	1.	2.	4.5.14.1.5.1.1.1.3.8.5.5.5.2.2.2.2.2
872	1.	1.	2.	4.5.14.1.5.1.1.1.3.8.7.7.7.6.6.5.5.4
873	1.	1.	2.	4.5.14.1.5.5.1.1.2.8.2.2.2.2.2.2.2.2
874	[illegible]	1.	2.	4.5.14.1.5.6.1.1.2.8.2.2.2.2.2.2.2.2
875	1.	1.	2.	4.5.14.1.5.6.1.1.2.8.6.6.6.6.6.5.5.4
876	[illegible]	1.	2.	4.5.14.1.5.6.8.1.2.8.2.2.2.2.2.2.2.2
87	[illegible]	1.	2.	4.5.14.2.5.1.1.1.2.8.2.2.2.2.2.2.2.2
878	1.	1.	2.	4.5.14.3.1.5.1.1.3.8.7.7.7.6.6.5.5.4
879	1.	1.	2.	4.5.14.7.1.6.3.1.4.1.1.1.1.1.1.1.2
880	1.	1.	2.	4.5.14.7.1.6.3.1.2.8.2.2.2.2.2.2.2.2
881	1.	1.	2.	4.6. 3.1.4.6.1.1.2.8.2.2.2.2.2.2.2.2
882	1.	1.	2.	4.6. 3.1.5.6.1.1.2.8.2.2.2.2.2.2.2.2
883	1.	1.	2.	4.6. 3.2.4.6.8.1.2.8.2.2.2.2.2.2.2.2
884	1.	1.	2.	4.6. 3.2.5.6.1.1.2.8.2.2.2.2.2.2.2.2
885	1.	1.	2.	4.6. 3.2.5.6.1.1.3.8.7.7.7.6.6.5.5.4
886	1.	1.	2.	4.6. 3.2.5.6.8.1.4.8.2.2.2.2.2.2.2.2
887	1.	1.	2.	4.6. 3.3.1.5.1.1.3.8.7.7.7.2.2.2.2.4
888	1.	1.	2.	4.6. 5.1.5.6.2.1.2.8.2.2.2.2.2.2.2.2
889	1.	1.	2.	4.6. 5.1.5.6.2.1.2.8.3.3.3.2.2.2.2.2
89	1.	1.	2.	4.6. 5.2.5.5.1.1.3.8.7.7.2.2.2.2.2.2
891	1.	1.	2.	4.6. 5.2.5.6.8.1.3.8.2.2.2.2.2.2.2.2
892	1.	1.	2.	4.6. 5.2.5.7.8.2.4.8.2.2.2.2.2.2.2.2
893	1.	1.	2.	4.6. 5.3.4.6.2.1.2.8.3.3.3.2.2.2.2.2
894	1.	1.	2.	4.6. 5.3.5.6.1.1.3.8.2.2.2.2.2.2.2.2
895	1.	1.	2.	4.6. 5.3.5.6.1.1.2.8.3.3.3.2.2.2.2.2
896	1.	1.	2.	4.6. 5.3.5.6.2.1.4.8.2.2.2.2.2.2.2.2
897	1.	1.	2.	4.6. 5.3.5.6.2.1.4.8.3.3.3.2.2.2.2.2
898	1.	1.	2.	4.6. 5.3.5.6.8.1.3.8.3.3.3.2.2.2.2.2
899	1.	1.	2.	4.6. 5.4.3.5.1.1.2.8.2.2.2.2.2.2.2.2
900	1.	1.	2.	4.6. 5.4.3.5.1.1.2.8.4.4.4.3.2.2.2.5
901	1.	1.	2.	4.6. 7.2.1.5.1.1.3.8.7.7.7.6.6.5.5.4
902	1.	1.	2.	4.6. 7.3.1.5.1.1.3.8.2.2.2.2.2.2.2.2
903	1.	1.	2.	4.6. 7.3.1.5.1.1.2.8.6.6.6.5.3.2.2.2
904	1.	1.	2.	4.6. 7.3.1.5.1.1.3.8.7.2.2.2.2.2.2.4
905	1.	1.	2.	4.6. 7.3.1.5.1.1.2.8.7.7.2.2.2.2.2.6
906	1.	1.	2.	4.6. 7.3.1.5.1.1.4.8.7.7.7.2.2.2.2.4
907	1.	1.	2.	4.6. 7.3.1.5.1.1.4.8.7.7.7.6.6.2.3.4
908	1.	1.	2.	4.6. 7.3.1.5.1.1.3.8.7.7.7.6.6.5.3.4
909	1.	1.	2.	4.6. 9.1.4.6.6.1.2.8.2.2.2.2.2.2.[illegible].2
910	1.	1.	2.	4.6. 9.2.1.5.1.1.3.8.7.7.7.6.6.5.5.6
911	1.	1.	2.	4.6. 9.2.4.6.1.1.3.8.2.2.2.2.2.2.2.2
912	1.	1.	2.	4.6. 9.2.4.6.8.1.2.8.2.2.2.2.2.2.2.2
913	1.	1.	2.	4.6. 9.2.4.6.8.1.2.8.3.3.3.2.2.2.2.2
914	1.	1.	2.	4.6. 9.2.4.6.8.1.4.8.8.2.2.2.2.2.2.2
915	1.	1.	2.	4.6. 9.2.4.7.8.2.4.8.2.2.2.2.2.2.2.2
916	1.	1.	2.	4.6. 9.2.4.7.8.2.2.8.4.4.4.4.2.2.2.2
917	1.	1.	2.	4.6. 9.2.4.7.8.2.4.8.8.2.2.2.2.2.2.2
918	1.	1.	2.	4.6. 9.3.4.6.2.1.4.8.2.2.2.2.2.2.2.2
919	1.	1.	2.	4.6. 9.3.4.6.8.1.4.8.2.2.2.2.2.2.2.2
920	1.	1.	2.	4.6.11.3.5.7.8.2.4.8.2.2.2.2.2.2.2.2
921	1.	1.	2.	4.6.14.1.5.1.1.1.2.8.2.2.2.2.2.2.2.2
922	1.	1.	2.	4.6.14.1.5.1.1.1.3.8.4.4.4.4.4.4.3.2
923	1.	1.	2.	4.6.14.2.5.1.1.1.4.8.2.2.2.2.2.2.2.2
924	1.	[illegible]	2.	4.6.14.2.5.6.1.1.4.8.2.2.2.2.2.2.2.2
925	1.	1.	2.	4.6.14.4.3.5.1.1.4.8.2.2.2.2.2.2.2.2
926	1.	1.	2.	4.6.14.7.1.6.3.1.4.1.1.1.1.1.1.1.2
927	1.	1.	2.	4.7. 5.3.1.5.1.1.3.8.7.7.7.6.6.5.5.4
928	1.	1.	2.	4.7. 7.3.1.5.1.1.4.8.2.2.2.2.2.2.2.2
929	1.	1.	2.	4.7. 7.3.1.5.1.[illegible].3.8.7.7.7.6.6.5.5.4
930	1.	1.	2.	4.7. 7.3.1.5.1.1.4.8.8.2.2.2.2.2.2.2
931	1.	1.	2.	4.7. 9.2.4.6.1.1.3.8.2.2.2.2.2.2.2.2
932	1.	1.	2.	4.7. 9.2.4.6.8.1.4.8.2.2.2.2.2.2.2.2
933	1.	1.	2.	4.7. 9.2.4.6.8.1.4.8.8.2.2.2.2.2.2.2
934	1.	1.	2.	4.7. 9.3.4.6.8.1.7.8.2.2.2.2.2.2.2.2
935	1.	1.	2.	4.7.14.1.5.1.1.1.4.8.2.2.2.2.2.2.2.2
936	1.	1.	3.	5.1.11.3.1.5.1.1.2.8.7.6.6.6.6.5.5.4
937	1.	1.	3.	5.1.11.3.1.5.1.1.2.8.7.7.7.6.6.5.5.4
938	1.	1.	3.	5.2. 5.1.5.1.1.1.2.8.2.2.2.2.2.2.2.2
939	1.	1.	3.	5.2. 5.1.5.6.1.1.2.8.2.2.2.2.2.2.2.2
940	1.	1.	3.	5.2. 7.3.5.6.1.1.2.8.2.2.2.2.2.2.2.2
941	1.	1.	3.	5.2. 7.3.5.6.1.1.2.8.6.6.6.6.6.5.5.4
942	1.	1.	3.	5.2. 9.2.4.6.8.1.2.8.2.2.2.2.2.2.2.2
943	1.	1.	3.	5.2. 9.2.4.7.8.2.2.8.2.2.2.2.2.2.2.2
944	1.	1.	3.	5.2.11.3.1.5.1.1.2.8.7.6.6.6.6.5.5.4
945	1.	1.	3.	5.2.14.1.5.1.1.1.2.8.2.2.2.2.2.2.2.2
946	1.	1.	3.	5.2.14.1.5.6.1.1.2.8.2.2.2.2.2.2.2.2
947	1.	1.	3.	5.3. 3.1.5.6.1.1.2.8.2.2.2.2.2.2.2.2
948	1.	1.	3.	5.3. 3.1.5.6.8.1.2.8.2.2.2.2.2.2.2.2
949	1.	1.	3.	5.3. 3.2.5.6.1.1.2.8.2.2.2.2.2.2.2.2
950	1.	1.	3.	5.3. 3.2.5.6.8.1.2.8.2.2.2.2.2.2.2.2
951	1.	1.	3.	5.3. 5.1.4.6.8.1.2.8.2.2.2.2.2.2.2.2
952	1.	1.	3.	5.3. 5.1.5.5.1.1.2.8.2.2.2.2.2.2.2.2
953	1.	1.	3.	5.3. 5.1.5.6.1.1.2.8.2.2.2.2.2.2.2.2
954	1.	1.	3.	5.3. 5.1.5.6.8.1.2.8.2.2.2.2.2.2.2.2
955	1.	1.	3.	5.3. 5.2.5.6.8.1.2.8.2.2.2.2.2.2.2.2
956	1.	1.	3.	5.3. 5.3.5.7.1.2.2.8.3.3.3.2.2.2.2.2
957	1.	1.	3.	5.3. 7.3.1.5.1.1.3.8.2.2.2.2.2.2.2.2
958	1.	1.	3.	5.3. 9.2.4.6.8.1.2.8.2.2.2.2.2.2.2.2
959	1.	1.	3.	5.3. 9.2.4.6.8.1.2.8.3.3.3.2.2.2.2.2
960	1.	1.	3.	5.3. 9.2.4.6.8.1.2.8.7.7.7.6.6.5.5.4
961	1.	1.	3.	5.3. 9.2.4.7.8.2.2.8.2.2.2.2.2.2.2.2
962	1.	1.	3.	5.3. 9.2.4.7.8.2.2.8.3.3.3.2.2.2.2.2
963	1.	1.	3.	5.3. 9.2.5.6.8.1.2.8.2.2.2.2.2.2.2.2
964	1.	1.	3.	5.3.11.3.1.5.1.1.2.8.7.6.6.6.6.5.5.4
965	1.	1.	3.	5.3.14.1.5.1.1.1.2.8.3.3.3.2.2.2.2.2
966	1.	1.	3.	5.4. 3.1.5.6.1.1.2.8.2.2.2.2.2.2.2.2
967	1.	1.	3.	5.4. 3.2.5.6.1.1.2.8.2.2.2.2.2.2.2.2
968	1.	1.	3.	5.4. 5.1.4.6.8.1.2.8.2.2.2.2.2.2.2.2
969	1.	1.	3.	5.4. 5.1.5.6.1.1.2.8.2.2.2.2.2.2.2.2
970	1.	1.	3.	5.4. 5.3.5.7.1.2.2.8.2.2.2.2.2.2.2.2

(Continued)

Table A16 (Continued)

USER ID F727 FILE - GERMNY PAGE 001[illegible]

971	1.	1.	3.	5.4.	9.2.4.6.8.1.2.8.2.2.2.2.2.2.2.2
972	1.	1.	3.	5.4.	9.2.4.7.2.2.2.8.2.2.2.2.2.2.2.2
973	1.	1.	3.	5.4.	9.2.4.7.8.2.4.8.2.2.2.2.2.2.2.2
974	1.	1.	3.	5.4.	14.1.5.1.1.1.2.8.3.3.3.2.2.2.2.2
975	1.	1.	3.	5.5.	3.1.3.6.1.1.2.8.2.2.2.2.2.2.2.2
976	1.	1.	3.	5.5.	3.2.5.6.1.1.2.8.2.2.2.2.2.2.2.2
977	1.	1.	3.	5.5.	3.2.5.6.8.1.2.8.2.2.2.2.2.2.2.2
978	1.	1.	3.	5.5.	7.3.1.5.1.1.3.8.7.7.7.6.6.5.5.4
979	1.	1.	3.	5.5.	9.2.4.6.8.1.2.8.2.2.2.2.2.2.2.2
980	1.	1.	3.	5.5.	9.2.4.7.8.2.4.8.2.2.2.2.2.2.2.2
981	1.	1.	3.	5.6.	3.2.5.6.1.1.2.8.2.2.2.2.2.2.2.2
982	1.	1.	3.	5.6.	5.2.4.6.1.1.2.8.2.2.2.2.2.2.2.2
983	1.	1.	3.	5.6.	7.3.1.5.1.1.3.8.2.2.2.2.2.2.2.2
984	1.	1.	3.	5.6.	9.2.4.6.8.1.2.8.2.2.2.2.2.2.2.2
985	1.	1.	3.	5.6.	9.2.4.7.8.2.2.8.2.2.2.2.2.2.2.2
986	1.	1.	4.	6.1.	3.2.5.6.8.1.2.8.2.2.2.2.2.2.2.2
987	1.	1.	4.	6.1.	5.3.5.6.8.1.2.8.2.2.2.2.2.2.2.2
988	1.	1.	4.	6.1.	9.2.4.6.1.1.2.8.2.2.2.2.2.2.2.2
989	1.	1.	4.	6.1.	9.2.4.6.8.1.2.8.2.2.2.2.2.2.2.2
990	1.	1.	4.	6.1.	9.2.4.7.8.2.2.8.2.2.2.2.2.2.2.2
991	1.	1.	4.	6.1.	9.3.4.6.8.1.2.8.2.2.2.2.2.2.2.2
992	1.	1.	4.	6.1.	9.3.4.6.8.1.2.8.8.2.2.2.2.2.2.2
993	1.	1.	4.	6.1.	9.3.4.7.8.2.2.8.2.2.2.2.2.2.2.2
994	1.	1.	4.	6.1.	14.1.5.1.1.1.2.8.2.2.2.2.2.2.2.2
995	1.	1.	4.	6.1.	14.1.5.1.8.1.2.8.2.2.2.2.2.2.2.2
996	1.	1.	4.	6.1.	14.2.5.1.1.1.2.8.2.2.2.2.2.2.2.2
997	1.	1.	4.	6.2.	1.1.5.6.1.1.2.8.2.2.2.2.2.2.2.2
998	1.	1.	4.	6.2.	1.1.5.7.8.2.2.8.2.2.2.2.2.2.2.2
999	1.	1.	4.	6.2.	3.1.5.6.1.1.2.8.2.2.2.2.2.2.2.2
1000	1.	1.	4.	6.2.	3.1.5.6.8.1.2.8.2.2.2.2.2.2.2.2
1001	1.	1.	4.	6.2.	3.1.5.7.1.2.2.8.2.2.2.2.2.2.2.2
1002	1.	1.	4.	6.2.	3.1.5.7.8.2.2.8.2.2.2.2.2.2.2.2
1003	1.	1.	4.	6.2.	3.2.4.6.8.1.2.8.2.2.2.2.2.2.2.2
1004	1.	1.	4.	6.2.	3.2.4.7.8.2.2.8.2.2.2.2.2.2.2.2
1005	1.	1.	4.	6.2.	3.2.5.6.8.1.2.8.2.2.2.2.2.2.2.2
1006	1.	1.	4.	6.2.	3.2.5.7.1.2.2.8.2.2.2.2.2.2.2.2
1007	1.	1.	4.	6.2.	3.2.5.7.8.2.2.8.2.2.2.2.2.2.2.2
1008	1.	1.	4.	6.2.	5.1.3.6.1.1.2.8.2.2.2.2.2.2.2.2
1009	1.	1.	4.	6.2.	5.1.3.6.2.1.2.8.2.2.2.2.2.2.2.2
1010	1.	1.	4.	6.2.	5.1.3.6.2.1.2.8.3.3.3.2.2.2.2.2
1011	1.	1.	4.	6.2.	5.1.3.7.2.2.2.8.2.2.2.2.2.2.2.2
1012	1.	1.	4.	6.2.	5.1.5.5.1.1.2.8.2.2.2.2.2.2.2.2
1013	1.	1.	4.	6.2.	5.1.5.5.1.1.2.8.3.3.3.2.2.2.2.2
1014	1.	1.	4.	6.2.	5.1.5.6.1.1.2.8.2.2.2.2.2.2.2.2
1015	1.	1.	4.	6.2.	5.1.5.6.2.1.2.8.2.2.2.2.2.2.2.2
1016	1.	1.	4.	6.2.	5.1.5.6.2.1.2.8.3.3.3.2.2.2.2.2
1017	1.	1.	4.	6.2.	5.1.5.6.8.1.2.8.2.2.2.2.2.2.2.2
1018	1.	1.	4.	6.2.	5.1.5.6.8.1.2.8.3.3.3.2.2.2.2.2
1019	1.	1.	4.	6.2.	5.1.5.7.2.2.2.8.2.2.2.2.2.2.2.2
102	1.	1.	4.	6.2.	5.1.5.7.2.2.2.8.3.3.3.2.2.2.2.2
1021	1.	1.	4.	6.2.	5.1.5.7.8.2.2.8.2.2.2.2.2.2.2.2
1022	1.	1.	4.	6.2.	5.2.4.6.8.1.2.8.2.2.2.2.2.2.2.2
1023	1.	1.	4.	6.2.	5.2.4.7.8.2.2.8.2.2.2.2.2.2.2.2
1024	1.	1.	4.	6.2.	5.2.4.7.8.2.2.8.3.3.3.2.2.2.2.2
1025	1.	1.	4.	6.2.	5.2.5.6.8.1.2.8.2.2.2.2.2.2.2.2
1026	1.	1.	4.	6.2.	5.2.5.6.8.1.2.8.3.3.3.2.2.2.2.2
1027	1.	1.	4.	6.2.	5.2.5.7.2.2.2.8.2.2.2.2.2.2.2.2
1028	1.	1.	4.	6.2.	5.2.5.7.2.2.2.8.3.3.3.2.2.2.2.2
1029	1.	1.	4.	6.2.	5.2.5.7.8.2.2.8.2.2.2.2.2.2.2.2
1030	1.	1.	4.	6.2.	5.3.5.6.8.1.2.8.2.2.2.2.2.2.2.2
1031	1.	1.	4.	6.2.	7.3.1.5.1.1.2.8.2.2.2.2.2.2.2.2
1032	1.	1.	4.	6.2.	7.3.1.5.1.1.2.8.7.7.7.6.6.5.5.4
1033	1.	1.	4.	6.2.	7.4.4.6.2.1.2.8.2.2.2.2.2.2.2.2
1034	1.	1.	4.	6.2.	7.4.4.6.8.1.2.8.2.2.2.2.2.2.2.2
1035	1.	1.	4.	6.2.	7.5.3.4.5.1.2.8.2.2.2.2.2.2.2.2
1036	1.	1.	4.	6.2.	9.1.4.1.8.1.2.8.3.3.3.2.2.2.2.2
1037	1.	1.	4.	6.2.	9.1.4.6.8.1.2.8.2.2.2.2.2.2.2.2
1038	1.	1.	4.	6.2.	9.1.4.7.1.2.2.8.2.2.2.2.2.2.2.2
1039	1.	1.	4.	6.2.	9.1.4.7.8.2.2.8.2.2.2.2.2.2.2.2
1040	1.	1.	4.	6.2.	9.1.4.7.8.2.2.8.3.3.3.2.2.2.2.2
1041	1.	1.	4.	6.2.	9.1.5.6.1.1.2.8.2.2.2.2.2.2.2.2
1042	1.	1.	4.	6.2.	9.1.5.7.2.2.2.8.2.2.2.2.2.2.2.7
1043	1.	1.	4.	6.2.	9.2.3.5.1.1.2.8.2.2.2.2.2.2.2.2
1044	1.	1.	4.	6.2.	9.2.3.6.8.1.2.8.2.2.2.2.2.2.2.2
1045	1.	1.	4.	6.2.	9.2.4.1.1.1.2.8.2.2.2.2.2.2.2.2
1046	1.	1.	4.	6.2.	9.2.4.6.8.1.2.8.2.2.2.2.2.2.2.2
1047	1.	1.	4.	6.2.	9.2.4.6.8.1.2.8.3.3.3.2.2.2.2.2
1048	1.	1.	4.	6.2.	9.2.4.6.8.1.2.8.3.3.3.3.3.2.2.2
1049	1.	1.	4.	6.2.	9.2.4.6.8.1.2.8.4.2.2.2.2.2.2.2
1050	1.	1.	4.	6.2.	9.2.4.6.8.1.2.8.4.4.4.2.2.2.2.2
1051	1.	1.	4.	6.2.	9.2.4.6.8.1.2.8.5.5.5.2.2.2.2.2
1052	1.	1.	4.	6.2.	9.2.4.6.8.1.2.8.8.2.2.2.2.2.2.2
1053	1.	1.	4.	6.2.	9.2.4.7.2.2.2.1.1.1.1.1.1.1.1.2
1054	1.	1.	4.	6.2.	9.2.4.7.2.2.2.8.2.2.2.2.2.2.2.2
1055	1.	1.	4.	6.2.	9.2.4.7.8.2.2.1.1.1.1.1.1.1.1.2
1056	1.	1.	4.	6.2.	9.2.4.7.8.2.2.8.2.2.2.2.2.2.2.2
1057	1.	1.	4.	6.2.	9.2.4.7.8.2.2.8.3.3.3.2.2.2.2.2
1058	1.	1.	4.	6.2.	9.2.4.7.8.2.2.8.4.2.2.2.2.2.2.2
1059	1.	1.	4.	6.2.	9.2.4.7.8.2.2.8.8.2.2.2.2.2.2.7
1060	1.	1.	4.	6.2.	9.2.5.6.8.1.2.8.2.2.2.2.2.2.2.2
1061	1.	1.	4.	6.2.	9.2.5.7.8.2.2.8.2.2.2.2.2.2.2.2
1062	1.	1.	4.	6.2.	9.3.4.1.8.1.2.8.2.2.2.2.2.2.2.2
1063	1.	1.	4.	6.2.	9.3.4.6.8.1.2.8.2.2.2.2.2.2.2.2
1064	1.	1.	4.	6.2.	9.3.4.7.8.2.2.8.2.2.2.2.2.2.2.2
1065	1.	1.	4.	6.2.	9.4.4.6.2.1.2.8.2.2.2.2.2.2.2.2
1066	1.	1.	4.	6.2.	11.2.2.7.5.2.2.8.2.2.2.2.2.2.2.2
1067	1.	1.	4.	6.2.	11.2.3.7.8.2.2.8.3.3.3.2.2.2.2.2
1068	1.	1.	4.	6.2.	11.2.4.6.1.1.2.8.2.2.2.2.2.2.2.2
1069	1.	1.	4.	6.2.	11.2.4.6.8.1.2.8.2.2.2.2.2.2.2.2
1070	1.	1.	4.	6.2.	11.6.5.6.3.1.2.8.2.2.2.2.2.2.2.2

(Continued)

Table A14 (Continued)

USER ID F727   FILE - GERMNY   PAGE 0012

1071	1.	1.	4.	6.2.14.1.5.1.1.1.2.8.2.2.2.2.2.2.2.2
1072	1.	1.	4.	6.2.14.1.5.1.1.1.2.8.3.3.3.2.2.2.2.2
1073	1.	1.	4.	6.2.14.1.5.1.8.1.2.8.2.2.2.2.2.2.2.2
1074	1.	1.	4.	6.2.14.1.5.6.1.1.2.8.2.2.2.2.2.2.2.2
1075	1.	1.	4.	6.2.14.1.5.6.8.1.2.8.2.2.2.2.2.2.2.2
1076	1.	1.	4.	6.2.14.1.5.7.8.2.3.8.2.2.2.2.2.2.2.2
1077	1.	1.	4.	6.2.14.1.5.7.8.2.2.8.4.4.4.2.2.2.2.2
1078	1.	1.	4.	6.2.14.2.5.1.1.1.2.8.2.2.2.2.2.2.2.2
1079	1.	1.	4.	6.2.14.2.5.7.2.2.2.8.4.4.4.2.2.2.2.2
1080	1.	1.	4.	6.2.14.2.5.7.8.2.2.8.2.2.2.2.2.2.2.2
1081	1.	1.	4.	6.2.14.3.5.1.1.1.2.8.2.2.2.2.2.2.2.2
1082	1.	1.	4.	6.3. 1.1.5.7.8.2.3.8.2.2.2.2.2.2.2.2
1083	1.	1.	4.	6.3. 1.1.5.7.8.2.2.8.7.7.7.6.6.5.5.4
1084	1.	1.	4.	6.3. 3.1.5.1.1.1.2.8.2.2.2.2.2.2.2.2
1085	1.	1.	4.	6.3. 3.1.5.6.1.1.2.8.2.2.2.2.2.2.2.2
1086	1.	1.	4.	6.3. 3.1.5.6.2.1.2.8.2.2.2.2.2.2.2.2
1087	1.	1.	4.	6.3. 3.1.5.7.1.2.2.8.2.2.2.2.2.2.2.2
1088	1.	1.	4.	6.3. 3.1.5.7.8.2.2.8.2.2.2.2.2.2.2.2
1089	1.	1.	4.	6.3. 3.2.4.7.8.2.3.8.2.2.2.2.2.2.2.2
1090	1.	1.	4.	6.3. 3.2.5.6.1.1.2.8.2.2.2.2.2.2.2.2
1091	1.	1.	4.	6.3. 3.2.5.6.8.1.2.8.2.2.2.2.2.2.2.2
1092	1.	1.	4.	6.3. 3.2.5.7.8.2.2.8.2.2.2.2.2.2.2.2
1093	1.	1.	4.	6.3. 5.1.3.6.1.1.3.8.2.2.2.2.2.2.2.2
1094	1.	1.	4.	6.3. 5.1.3.6.2.1.3.8.2.2.2.2.2.2.2.2
1095	1.	1.	4.	6.3. 5.1.3.6.2.1.2.8.3.3.3.2.2.2.2.2
1096	1.	1.	4.	6.3. 5.1.3.7.1.2.2.8.2.2.2.2.2.2.2.2
1097	1.	1.	4.	6.3. 5.1.4.6.8.1.2.8.2.2.2.2.2.2.2.2
1098	1.	1.	4.	6.3. 5.1.4.7.2.2.2.8.3.3.3.2.2.2.2.2
1099	1.	1.	4.	6.3. 5.1.5.6.1.1.2.8.2.2.2.2.2.2.2.2
1100	1.	1.	4.	6.3. 5.1.5.6.1.1.2.8.3.3.3.2.2.2.2.2
1101	1.	1.	4.	6.3. 5.1.5.6.2.1.3.8.2.2.2.2.2.2.2.2
1102	1.	1.	4.	6.3. 5.1.5.6.2.1.2.8.3.3.3.2.2.2.2.2
1103	1.	1.	4.	6.3. 5.1.5.7.1.2.2.8.2.2.2.2.2.2.2.2
1104	1.	1.	4.	6.3. 5.1.5.7.2.2.2.8.2.2.2.2.2.2.2.2
1105	1.	1.	4.	6.3. 5.1.5.7.2.2.2.8.3.3.3.2.2.2.2.2
1106	1.	1.	4.	6.3. 5.1.5.7.2.2.2.8.4.4.4.2.2.2.2.2
1107	1.	1.	4.	6.3. 5.2.3.6.8.1.2.8.2.2.2.2.2.2.2.2
1108	1.	1.	4.	6.3. 5.2.3.6.8.1.2.8.3.3.3.2.2.2.2.2
1109	1.	1.	4.	6.3. 5.2.4.6.1.1.2.8.2.2.2.2.2.2.2.2
1110	1.	1.	4.	6.3. 5.2.4.6.2.1.2.8.2.2.2.2.2.2.2.2
1111	1.	1.	4.	6.3. 5.2.5.6.1.1.2.8.2.2.2.2.2.2.2.2
1112	1.	1.	4.	6.3. 5.2.5.6.2.1.2.8.2.2.2.2.2.2.2.2
1113	1.	1.	4.	6.3. 5.2.5.6.2.1.2.8.3.3.3.2.2.2.2.2
1114	1.	1.	4.	6.3. 5.2.5.6.8.1.2.8.2.2.2.2.2.2.2.2
1115	1.	1.	4.	6.3. 5.2.5.6.8.1.2.8.3.3.3.2.2.2.2.2
1116	1.	1.	4.	6.3. 5.2.5.7.2.2.2.8.2.2.2.2.2.2.2.2
1117	1.	1.	4.	6.3. 5.2.5.7.2.2.2.8.3.3.3.2.2.2.2.2
1118	1.	1.	4.	6.3. 5.2.5.7.2.2.2.8.4.4.4.2.2.2.2.2
1119	1.	1.	4.	6.3. 5.2.5.7.8.2.2.8.2.2.2.2.2.2.2.2
112	1.	1.	4.	6.3. 5.2.5.7.8.2.2.8.3.3.3.2.2.2.2.2
1121	1.	1.	4.	6.3. 5.2.5.7.8.2.2.8.4.4.4.2.2.2.2.2
1122	1.	1.	4.	6.3. 5.3.5.6.2.1.2.8.2.2.2.2.2.2.2.2
1123	1.	1.	4.	6.3. 5.3.5.6.2.1.3.8.3.3.3.2.2.2.2.2
1124	1.	1.	4.	6.3. 5.3.5.7.2.2.2.8.2.2.2.2.2.2.2.2
1125	1.	1.	4.	6.3. 5.3.5.7.2.2.2.8.3.3.3.2.2.2.2.2
1126	1.	1.	4.	6.3. 7.1.5.6.2.1.2.8.2.2.2.2.2.2.2.2
1127	1.	1.	4.	6.3. 7.2.1.5.1.1.4.8.4.4.4.2.2.2.2.2
1128	1.	1.	4.	6.3. 7.2.3.6.8.1.2.8.2.2.2.2.2.2.2.2
1129	1.	1.	4.	6.3. 7.2.4.6.2.1.2.8.2.2.2.2.2.2.2.2
1130	1.	1.	4.	6.3. 7.3.1.5.1.1.2.8.2.2.2.2.2.2.2.2
1131	1.	1.	4.	6.3. 7.3.1.5.1.1.2.8.7.7.7.6.6.5.5.4
1132	1.	1.	4.	6.3. 7.3.1.7.1.2.2.8.2.2.2.2.2.2.2.2
1133	1.	1.	4.	6.3. 7.5.3.7.5.2.2.8.2.2.2.2.2.2.2.2
1134	1.	1.	4.	6.3. 9.1.4.1.1.1.2.8.2.2.2.2.2.2.2.2
1135	1.	1.	4.	6.3. 9.1.4.6.8.1.2.8.2.2.2.2.2.2.2.2
1136	1.	1.	4.	6.3. 9.1.4.7.8.2.2.8.2.2.2.2.2.2.2.2
1137	1.	1.	4.	6.3. 9.1.5.1.1.1.2.8.2.2.2.2.2.2.2.2
1138	1.	1.	4.	6.3. 9.1.5.7.2.2.2.8.2.2.2.2.2.2.2.2
1139	1.	1.	4.	6.3. 9.2.3.6.8.1.2.8.3.3.3.2.2.2.2.2
1140	1.	1.	4.	6.3. 9.2.4.1.1.1.2.8.2.2.2.2.2.2.2.2
1141	1.	1.	4.	6.3. 9.2.4.6.1.1.2.8.2.2.2.2.2.2.2.2
1142	1.	1.	4.	6.3. 9.2.4.6.8.1.2.8.2.2.2.2.2.2.2.2
1143	1.	1.	4.	6.3. 9.2.4.6.8.1.2.8.3.2.2.2.2.2.2.2
1144	1.	1.	4.	6.3. 9.2.4.6.8.1.2.8.3.3.3.2.2.2.2.2
1145	1.	1.	4.	6.3. 9.2.4.6.8.1.2.8.7.7.7.2.2.2.2.4
1146	1.	1.	4.	6.3. 9.2.4.6.8.1.2.8.7.7.7.6.6.4.4.4
1147	1.	1.	4.	6.3. 9.2.4.6.8.1.2.8.7.7.7.6.6.5.5.4
1148	1.	1.	4.	6.3. 9.2.4.6.8.1.2.8.8.2.2.2.2.2.2.2
1149	1.	1.	4.	6.3. 9.2.4.7.2.2.2.8.2.2.2.2.2.2.2.2
1150	1.	1.	4.	6.3. 9.2.4.7.2.2.2.8.3.3.3.2.2.2.2.2
1151	1.	1.	4.	6.3. 9.2.4.7.2.2.2.8.5.5.5.2.2.2.2.2
1152	1.	1.	4.	6.3. 9.2.4.7.8.2.2.8.2.2.2.2.2.2.2.2
1153	1.	1.	4.	6.3. 9.2.4.7.8.2.2.8.3.3.3.2.2.2.2.2
1154	1.	1.	4.	6.3. 9.2.4.7.8.2.2.8.4.2.2.2.2.2.2.2
1155	1.	1.	4.	6.3. 9.2.4.7.8.2.2.8.4.4.4.2.2.2.2.2
1156	1.	1.	4.	6.3. 9.2.4.7.8.2.2.8.4.4.4.4.4.2.2.2
1157	1.	1.	4.	6.3. 9.2.4.7.8.2.3.8.6.6.2.2.2.2.2.2
1158	1.	1.	4.	6.3. 9.2.4.7.8.2.2.8.7.7.7.2.2.2.2.2
1159	1.	1.	4.	6.3. 9.2.4.7.8.2.3.8.7.7.7.6.6.5.5.4
1160	1.	1.	4.	6.3. 9.2.4.7.8.2.2.8.8.2.2.2.2.2.2.2
1161	1.	1.	4.	6.3. 9.2.4.7.8.2.2.8.8.2.2.2.2.2.2.7
1162	1.	1.	4.	6.3. 9.2.5.6.2.1.2.8.2.2.2.2.2.2.2.2
1163	1.	1.	4.	6.3. 9.2.5.7.8.2.2.8.2.2.2.2.2.2.2.2
1164	1.	1.	4.	6.3. 9.3.4.7.8.2.2.8.2.2.2.2.2.2.2.2
1165	1.	1.	4.	6.3. 9.4.4.6.2.1.2.8.2.2.2.2.2.2.2.2
1166	1.	1.	4.	6.3. 9.4.4.6.8.1.2.8.2.2.2.2.2.2.2.2
1167	1.	1.	4.	6.3. 9.4.4.7.8.2.2.8.2.2.2.2.2.2.2.2
1168	1.	1.	4.	6.3.11.2.4.7.2.2.2.8.2.2.2.2.2.2.2.2
1169	1.	1.	4.	6.3.11.2.4.7.8.2.2.8.2.2.2.2.2.2.2.2
1170	1.	1.	4.	6.3.11.5.2.7.5.2.2.8.2.2.2.2.2.2.2.2

(Continued)

Table A14 (Continued)

1171	1.	1.	4.	6.3.13.1.5.6.2.1.2.8.2.2.2.2.2.2.2.2	
1172	1.	1.	4.	6.3.14.1.5.1.1.1.2.8.2.2.2.2.2.2.2.2	
1173	1.	1.	4.	6.3.14.1.5.1.1.1.2.8.4.4.4.2.2.2.2.2	
1174	1.	1.	4.	6.3.14.1.5.1.1.1.2.8.4.4.4.4.3.2.2.2	
1175	1.	1.	4.	6.3.14.1.5.1.2.1.2.8.2.2.2.2.2.2.2.2	
1176	1.	1.	4.	6.3.14.1.5.1.2.1.2.8.4.4.4.2.2.2.2.2	
1177	1.	1.	4.	6.3.14.1.5.6.1.1.2.8.2.2.2.2.2.2.2.2	
1178	1.	1.	4.	6.3.14.1.5.7.2.2.2.8.4.4.4.2.2.2.2.2	
1179	1.	1.	4.	6.3.14.1.5.7.8.2.2.8.2.2.2.2.2.2.2.2	
1180	1.	1.	4.	6.3.14.2.5.1.1.1.2.8.2.2.2.2.2.2.2.2	
1181	1.	1.	4.	6.3.14.2.5.7.2.2.2.8.4.4.4.2.2.2.2.2	
1182	1.	1.	4.	6.3.14.2.5.7.8.2.2.8.2.2.2.2.2.2.2.2	
1183	1.	1.	4.	6.3.14.3.5.1.1.1.2.8.2.2.2.2.2.2.2.2	
1184	1.	1.	4.	6.3.14.7.1.6.3.1.4.1.1.1.1.1.1.1.1.2	
1185	1.	1.	4.	6.3.14.7.1.6.3.1.3.8.2.2.2.2.2.2.2.2	
1186	1.	1.	4.	6.4.	1.1.5.7.8.2.4.8.2.2.2.2.2.2.2.2.2
1187	1.	1.	4.	6.4.	3.1.4.7.8.2.4.8.2.2.2.2.2.2.2.2.2
1188	1.	1.	4.	6.4.	3.1.5.6.1.1.2.8.2.2.2.2.2.2.2.2.2
1189	1.	1.	4.	6.4.	3.1.5.6.1.1.2.8.3.3.3.3.2.2.2.2.2.2
1190	1.	1.	4.	6.4.	3.1.5.6.2.1.2.8.2.2.2.2.2.2.2.2.2
1191	1.	1.	4.	6.4.	3.1.5.6.2.1.2.8.7.7.7.6.6.6.5.5.5.2
1192	1.	1.	4.	6.4.	3.1.5.6.8.1.2.8.2.2.2.2.2.2.2.2.2
1193	1.	1.	4.	6.4.	3.1.5.7.1.2.2.8.2.2.2.2.2.2.2.2.2
1194	1.	1.	4.	6.4.	3.1.5.7.1.2.2.8.8.2.2.2.2.2.2.2.7
1195	1.	1.	4.	6.4.	3.1.5.7.8.2.4.8.2.2.2.2.2.2.2.2.2
1196	1.	1.	4.	6.4.	3.2.4.6.8.1.2.8.2.2.2.2.2.2.2.2.2
1197	1.	1.	4.	6.4.	3.2.4.7.8.2.4.8.2.2.2.2.2.2.2.2.2
1198	1.	1.	4.	6.4.	3.2.5.6.1.1.2.8.2.2.2.2.2.2.2.2.2
1199	1.	1.	4.	6.4.	3.2.5.6.8.1.2.8.2.2.2.2.2.2.2.2.2
1200	1.	1.	4.	6.4.	5.1.3.6.1.1.2.8.2.2.2.2.2.2.2.2.2
1201	1.	1.	4.	6.4.	5.1.3.6.2.1.2.8.2.2.2.2.2.2.2.2.2
1202	1.	1.	4.	6.4.	5.1.3.6.2.1.2.8.3.3.3.3.2.2.2.2.2.2
1203	1.	1.	4.	6.4.	5.1.3.6.3.1.2.8.2.2.2.2.2.2.2.2.2
1204	1.	1.	4.	6.4.	5.1.3.7.1.2.2.8.2.2.2.2.2.2.2.2.2
1205	1.	1.	4.	6.4.	5.1.3.7.1.2.2.8.3.3.3.3.2.2.2.2.2.2
1206	1.	1.	4.	6.4.	5.1.3.7.1.2.2.8.8.2.2.2.2.2.2.2.7
1207	1.	1.	4.	6.4.	5.1.4.7.2.2.2.8.3.3.3.3.2.2.2.2.2.2
1208	1.	1.	4.	6.4.	5.1.5.1.1.1.2.8.2.2.2.2.2.2.2.2.2
1209	1.	1.	4.	6.4.	5.1.5.5.1.1.2.8.2.2.2.2.2.2.2.2.2
1210	1.	1.	4.	6.4.	5.1.5.5.1.1.2.8.3.3.3.3.2.2.2.2.2.2
1211	1.	1.	4.	6.4.	5.1.5.6.1.1.2.8.2.2.2.2.2.2.2.2.2
1212	1.	1.	4.	6.4.	5.1.5.6.2.1.2.8.2.2.2.2.2.2.2.2.2
1213	1.	1.	4.	6.4.	5.1.5.6.2.1.2.8.3.3.3.3.2.2.2.2.2.2
1214	1.	1.	4.	6.4.	5.1.5.7.1.2.3.8.2.2.2.2.2.2.2.2.2
1215	1.	1.	4.	6.4.	5.1.5.7.1.2.2.8.3.3.3.3.2.2.2.2.2.2
1216	1.	1.	4.	6.4.	5.1.5.7.2.2.2.8.2.2.2.2.2.2.2.2.2
1217	1.	1.	4.	6.4.	5.1.5.7.2.2.2.8.3.3.3.3.2.2.2.2.2.2
1218	1.	1.	4.	6.4.	5.1.5.7.2.2.2.8.4.4.4.4.2.2.2.2.2.2
1219	1.	1.	4.	6.4.	5.1.5.7.2.2.2.8.5.5.5.5.2.2.2.2.2.2
1220	1.	1.	4.	6.4.	5.1.5.7.8.2.2.8.2.2.2.2.2.2.2.2.2
1221	1.	1.	4.	6.4.	5.1.5.7.8.2.2.8.3.3.3.2.2.2.2.2
1222	1.	1.	4.	6.4.	5.1.5.7.8.2.2.8.4.4.4.2.2.2.2.2
1223	1.	1.	4.	6.4.	5.2.3.6.8.1.2.8.2.2.2.2.2.2.2.2
1224	1.	1.	4.	6.4.	5.2.3.6.8.1.2.8.3.3.3.2.2.2.2.2
1225	1.	1.	4.	6.4.	5.2.4.6.8.1.2.8.2.2.2.2.2.2.2.2
1226	1.	1.	4.	6.4.	5.2.5.5.1.1.2.8.3.3.3.2.2.2.2.2
1227	1.	1.	4.	6.4.	5.2.5.6.2.1.2.8.2.2.2.2.2.2.2.2
1228	1.	1.	4.	6.4.	5.2.5.6.8.1.2.8.2.2.2.2.2.2.2.2
1229	1.	1.	4.	6.4.	5.2.5.7.2.2.2.8.2.2.2.2.2.2.2.2
1230	1.	1.	4.	6.4.	5.2.5.7.2.2.2.8.3.3.3.2.2.2.2.2
1231	1.	1.	4.	6.4.	5.2.5.7.8.2.2.8.2.2.2.2.2.2.2.2
1232	1.	1.	4.	6.4.	5.3.3.5.1.1.2.8.2.2.2.2.2.2.2.2
1233	1.	1.	4.	6.4.	5.3.4.6.8.1.4.8.3.3.3.2.2.2.2.2
1234	1.	1.	4.	6.4.	5.3.5.6.2.1.4.8.2.2.2.2.2.2.2.2
1235	1.	1.	4.	6.4.	5.3.5.6.2.1.4.8.3.3.3.2.2.2.2.2
1236	1.	1.	4.	6.4.	7.1.3.6.1.1.4.8.2.2.2.2.2.2.2.2
1237	1.	1.	4.	6.4.	7.1.3.1.1.1.2.8.2.2.2.2.2.2.2.2
1238	1.	1.	4.	6.4.	7.1.5.6.1.1.2.8.3.3.3.2.2.2.2.2
1239	1.	1.	4.	6.4.	7.2.5.7.1.2.2.8.2.2.2.2.2.2.2.2
1240	1.	1.	4.	6.4.	7.3.1.5.1.1.4.8.2.2.2.2.2.2.2.2
1241	1.	1.	4.	6.4.	7.3.1.5.1.1.2.8.3.3.3.2.2.2.2.2
1242	1.	1.	4.	6.4.	7.3.1.5.1.1.2.8.7.7.7.6.6.5.5.4
1243	1.	1.	4.	6.4.	7.3.1.5.1.1.4.8.8.2.2.2.2.2.2.2
1244	1.	1.	4.	6.4.	7.3.1.6.1.1.2.8.2.2.2.2.2.2.2.2
1245	1.	1.	4.	6.4.	7.3.1.7.1.2.2.8.2.2.2.2.2.2.2.2
1246	1.	1.	4.	6.4.	7.3.4.6.8.1.4.8.4.4.4.2.2.2.2.2
1247	1.	1.	4.	6.4.	7.3.5.6.1.1.2.8.2.2.2.2.2.2.2.2
1248	1.	1.	4.	6.4.	7.4.4.7.8.2.4.8.2.2.2.2.2.2.2.2
1249	1.	1.	4.	6.4.	7.5.3.7.8.2.2.8.2.2.2.2.2.2.2.2
1250	1.	1.	4.	6.4.	9.1.4.6.1.1.2.8.2.2.2.2.2.2.2.2
1251	1.	1.	4.	6.4.	9.1.4.6.8.1.2.8.2.2.2.2.2.2.2.2
1252	1.	1.	4.	6.4.	9.1.4.6.8.1.2.8.3.3.3.2.2.2.2.2
1253	1.	1.	4.	6.4.	9.1.4.7.2.2.2.8.2.2.2.2.2.2.2.2
1254	1.	1.	4.	6.4.	9.1.4.7.8.2.2.8.2.2.2.2.2.2.2.2
1255	1.	1.	4.	6.4.	9.1.5.1.1.1.2.8.2.2.2.2.2.2.2.2
1256	1.	1.	4.	6.4.	9.1.5.7.2.2.2.8.2.2.2.2.2.2.2.2
1257	1.	1.	4.	6.4.	9.2.3.6.8.1.2.8.2.2.2.2.2.2.2.2
1258	1.	1.	4.	6.4.	9.2.4.6.1.1.2.8.2.2.2.2.2.2.2.2
1259	1.	1.	4.	6.4.	9.2.4.6.8.1.2.8.2.2.2.2.2.2.2.2
1260	1.	1.	4.	6.4.	9.2.4.6.8.1.2.8.3.2.2.2.2.2.2.2
1261	1.	1.	4.	6.4.	9.2.4.6.8.1.2.8.3.3.3.2.2.2.2.2
1262	1.	1.	4.	6.4.	9.2.4.6.8.1.2.8.7.7.7.2.2.2.2.4
1263	1.	1.	4.	6.4.	9.2.4.6.8.1.2.8.8.2.2.2.2.2.2.2
1264	1.	1.	4.	6.4.	9.2.4.7.2.2.2.8.2.2.2.2.2.2.2.2
1265	1.	1.	4.	6.4.	9.2.4.7.8.2.2.8.2.2.2.2.2.2.2.2
1266	1.	1.	4.	6.4.	9.2.4.7.8.2.2.8.3.3.3.2.2.2.2.2
1267	1.	1.	4.	6.4.	9.2.4.7.8.2.2.8.4.3.3.2.2.2.2.2
1268	1.	1.	4.	6.4.	9.2.4.7.8.2.2.8.7.7.7.2.2.2.2.2
1269	1.	1.	4.	6.4.	9.2.4.7.8.2.3.8.7.7.7.6.6.5.5.4
1270	1.	1.	4.	6.4.	9.2.4.7.8.2.4.8.8.2.2.2.2.2.2.2

(Continued)

Table A14 (Continued)

USER ID F727 FILE - GERMNY PAGE 0014

1271	1.	1.	4.	6.4.	9.2.4.7.8.2.2.8.8.2.2.2.2.2.2.7
1272	1.	1.	4.	6.4.	9.2.5.6.1.1.2.8.2.2.2.2.2.2.2.2
1273	1.	1.	4.	6.4.	9.2.5.7.2.2.4.8.2.2.2.2.2.2.2.2
1274	1.	1.	4.	6.4.	9.2.5.7.8.2.2.8.2.2.2.2.2.2.2.2
1275	1.	1.	4.	6.4.	9.3.4.6.1.1.2.8.2.2.2.2.2.2.2.2
1276	1.	1.	4.	6.4.	9.3.4.6.8.1.2.8.3.3.3.2.2.2.2.2
1277	1.	1.	4.	6.4.	9.4.4.7.8.2.4.8.2.2.2.2.2.2.2.2
1278	1.	1.	4.	6.4.11.	2.4.7.2.2.2.8.2.2.2.2.2.2.2
1279	1.	1.	4.	6.4.11.	2.4.7.8.2.2.8.2.2.2.2.2.2.2
1280	1.	1.	4.	6.4.11.	2.4.7.8.2.2.8.4.4.4.2.2.2.2
1281	1.	1.	4.	6.4.11.	5.2.7.5.2.2.8.2.2.2.2.2.2.2
1282	1.	1.	4.	6.4.14.	1.5.1.1.1.2.8.2.2.2.2.2.2.2
1283	1.	1.	4.	6.4.14.	1.5.1.1.1.4.8.4.4.4.4.3.2.2
1284	1.	1.	4.	6.4.14.	1.5.6.1.1.2.8.2.2.2.2.2.2.2
1285	1.	1.	4.	6.4.14.	1.5.6.8.1.4.8.2.2.2.2.2.2.2
1286	1.	1.	4.	6.4.14.	3.5.1.1.1.2.8.2.2.2.2.2.2.2
1287	1.	1.	4.	6.5.	1.1.5.7.8.2.4.8.2.2.2.2.2.2.2.2
1288	1.	1.	4.	6.5.	3.1.4.6.2.1.2.8.2.2.2.2.2.2.2.2
1289	1.	1.	4.	6.5.	3.1.5.6.1.1.2.8.2.2.2.2.2.2.2.2
1290	1.	1.	4.	6.5.	3.1.5.6.1.1.2.8.2.2.2.2.2.2.2.4
1291	1.	1.	4.	6.5.	3.1.5.6.2.1.2.8.7.7.7.6.6.5.5.2
1292	1.	1.	4.	6.5.	3.2.4.6.8.1.2.8.2.2.2.2.2.2.2.2
1293	1.	1.	4.	6.5.	3.2.4.7.8.2.4.8.2.2.2.2.2.2.2.2
1294	1.	1.	4.	6.5.	5.1.3.7.2.2.3.8.2.2.2.2.2.2.2.2
1295	1.	1.	4.	6.5.	5.1.3.7.2.2.3.8.3.3.3.2.2.2.2.2
1296	1.	1.	4.	6.5.	5.1.4.6.8.1.2.8.2.2.2.2.2.2.2.2
1297	1.	1.	4.	6.5.	5.1.5.6.1.1.2.8.2.2.2.2.2.2.2.2
1298	1.	1.	4.	6.5.	5.1.5.6.2.1.2.8.2.2.2.2.2.2.2.2
1299	1.	1.	4.	6.5.	5.1.5.6.2.1.2.8.3.3.3.2.2.2.2.2
1300	1.	1.	4.	6.5.	5.1.5.6.2.1.4.8.7.7.7.6.6.5.5.2
1301	1.	1.	4.	6.5.	5.1.5.6.8.1.2.8.2.2.2.2.2.2.2.2
1302	1.	1.	4.	6.5.	5.1.5.7.1.2.4.8.2.2.2.2.2.2.2.2
1303	1.	1.	4.	6.5.	5.1.5.7.2.2.2.8.2.2.2.2.2.2.2.2
1304	1.	1.	4.	6.5.	5.1.5.7.2.2.2.8.3.3.3.2.2.2.2.2
1305	1.	1.	4.	6.5.	5.2.3.7.8.2.4.8.3.3.3.2.2.2.2.2
1306	1.	1.	4.	6.5.	5.2.4.6.1.1.2.8.2.2.2.2.2.2.2.2
1307	1.	1.	4.	6.5.	5.2.4.6.2.1.2.8.2.2.2.2.2.2.2.2
1308	1.	1.	4.	6.5.	5.2.4.6.8.1.2.8.2.2.2.2.2.2.2.2
1309	1.	1.	4.	6.5.	5.2.5.7.2.2.3.8.3.3.3.2.2.2.2.2
1310	1.	1.	4.	6.5.	5.2.5.7.8.2.4.8.2.2.2.2.2.2.2.2
1311	1.	1.	4.	6.5.	5.3.5.6.2.1.4.8.2.2.2.2.2.2.2.2
1312	1.	1.	4.	6.5.	7.1.5.6.1.1.2.8.2.2.2.2.2.2.2.2
1313	1.	1.	4.	6.5.	7.3.1.5.1.1.4.8.2.2.2.2.2.2.2.2
1314	1.	1.	4.	6.5.	7.3.1.7.1.2.2.8.2.2.2.2.2.2.2.2
1315	1.	1.	4.	6.5.	7.3.3.6.1.1.4.8.2.2.2.2.2.2.2.2
1316	1.	1.	4.	6.5.	7.3.5.6.1.1.2.8.2.2.2.2.2.2.2.2
1317	1.	1.	4.	6.5.	7.4.1.5.1.1.2.8.2.2.2.2.2.2.2.2
1318	1.	1.	4.	6.5.	7.4.1.5.1.1.2.8.7.7.7.6.6.5.5.4
1319	1.	1.	4.	6.5.	9.1.4.5.8.1.3.8.2.2.2.2.2.2.2.2
1320	1.	1.	4.	6.5.	9.1.4.6.1.1.2.8.2.2.2.2.2.2.2.2
1321	1.	1.	4.	6.5.	9.1.4.6.8.1.2.8.2.2.2.2.2.2.2.2
1322	1.	1.	4.	6.5.	9.1.5.6.2.1.2.8.3.3.3.2.2.2.2.2
1323	1.	1.	4.	6.5.	9.2.4.1.1.1.2.8.2.2.2.2.2.2.2.2
1324	1.	1.	4.	6.5.	9.2.4.6.2.1.2.8.2.2.2.2.2.2.2.2
1325	1.	1.	4.	6.5.	9.2.4.6.2.1.3.8.3.3.3.2.2.2.2.2
1326	1.	1.	4.	6.5.	9.2.4.6.8.1.2.8.2.2.2.2.2.2.2.2
1327	1.	1.	4.	6.5.	9.2.4.6.8.1.2.8.3.3.3.2.2.2.2.2
1328	1.	1.	4.	6.5.	9.2.4.6.8.1.2.8.8.2.2.2.2.2.2.2
1329	1.	1.	4.	6.5.	9.2.4.7.2.2.2.8.3.3.3.2.2.2.2.2
1330	1.	1.	4.	6.5.	9.2.4.7.8.2.2.8.2.2.2.2.2.2.2.2
1331	1.	1.	4.	6.5.	9.2.4.7.8.2.2.8.7.7.6.6.6.5.5.2
1332	1.	1.	4.	6.5.	9.2.4.7.8.2.4.8.8.2.2.2.2.2.2.2
1333	1.	1.	4.	6.5.	9.3.1.5.1.1.2.8.2.2.2.2.2.2.2.2
1334	1.	1.	4.	6.5.	9.3.4.6.1.1.2.8.2.2.2.2.2.2.2.2
1335	1.	1.	4.	6.5.	9.3.4.6.8.1.4.8.2.2.2.2.2.2.2.2
1336	1.	1.	4.	6.5.	9.3.5.6.2.1.2.8.2.2.2.2.2.2.2.2
1337	1.	1.	4.	6.5.	9.4.4.6.1.1.4.8.2.2.2.2.2.2.2.2
1338	1.	1.	4.	6.5.	9.4.4.7.8.2.4.8.2.2.2.2.2.2.2.2
1339	1.	1.	4.	6.5.11.	2.4.7.8.2.2.8.2.2.2.2.2.2.2
1340	1.	1.	4.	6.5.13.	1.5.6.2.1.2.8.2.2.2.2.2.2.2
1341	1.	1.	4.	6.5.14.	1.5.1.1.1.2.8.2.2.2.2.2.2.2
1342	1.	1.	4.	6.5.14.	7.1.6.3.1.4.8.2.2.2.2.2.2.2
1343	1.	1.	4.	6.6.	3.1.5.6.1.1.2.8.2.2.2.2.2.2.2.2
1344	1.	1.	4.	6.6.	5.1.5.6.1.1.2.8.2.2.2.2.2.2.2.2
1345	1.	1.	4.	6.6.	5.2.4.6.1.1.2.8.2.2.2.2.2.2.2.2
1346	1.	1.	4.	6.6.	5.3.5.6.2.1.4.8.2.2.2.2.2.2.2.2
1347	1.	1.	4.	6.6.	5.3.5.6.8.1.2.8.3.3.3.2.2.2.2.2
1348	1.	1.	4.	6.6.	9.2.4.6.8.1.4.8.2.2.2.2.2.2.2.2
1349	1.	1.	4.	6.6.	9.2.4.7.2.2.4.8.2.2.2.2.2.2.2.2
1350	1.	1.	4.	6.6.	9.2.4.7.8.2.4.8.2.2.2.2.2.2.2.2
1351	1.	1.	4.	6.6.	9.3.4.6.2.1.4.8.2.2.2.2.2.2.2.2
1352	1.	1.	4.	6.6.	9.3.4.6.8.1.4.8.2.2.2.2.2.2.2.2
1353	1.	1.	4.	6.6.	9.4.4.6.8.1.4.8.2.2.2.2.2.2.2.2
1354	1.	1.	4.	6.6.14.	1.5.1.1.1.4.8.2.2.2.2.2.2.2
1355	1.	1.	4.	6.7.	9.2.4.6.8.1.4.8 2.2.2.2.2.2.2.2
1356	1.	1.	4.	6.7.	9.2.4.7.2.2.4.8.2.2.2.2.2.2.2.2
1357	1.	1.	4.	6.7.	9.3.4.6.8.1.4.8.2.2.2.2.2.2.2.2
1358	1.	1.	4.	6.7.14.	1.5.1.1.1.4.8.4.4.4.4.3.2.2
1359	1.	1.	4.	6.8.	9.2.4.7.8.2.2.8.2.2.2.2.2.2.2.2
1360	1.	2.	4.	6.4.	3.1.5.6.1.1.4.8.2.2.2.2.2.2.2.2
1361	1.	2.	4.	6.4.	7.3.1.5.1.1.4.8.2.2.2.2.2.2.2.2
1362	1.	2.	4.	6.5.	3.1.5.6.1.1.4.8.2.2.2.2.2.2.2.2
1363	1.	2.	4.	6.5.	7.3.1.5.1.1.4.8.2.2.2.2.2.2.2.2
1364	1.	3.	6.	7.1.	9.2.4.6.8.1.2.8.2.2.2.2.2.2.2.2
1365	1.	3.	6.	7.1.	9.2.4.7.8.2.2.8.2.2.2.2.2.2.2.2
1366	1.	3.	6.	7.2.	3.1.3.6.1.1.2.8.3.3.3.2.2.2.2.2
1367	1.	3.	6.	7.2.	3.1.5.1.1.1.2.8.2.2.2.2.2.2.2.2
1368	1.	3.	6.	7.2.	3.1.5.6.1.1.2.8.2.2.2.2.2.2.2.2
1369	1.	3.	6.	7.2.	3.1.5.7.1.2.2.8.2.2.2.2.2.2.2.2
1370	1.	3.	6.	7.2.	3.1.5.7.8.2.2.6.2.2.2.2.2.2.2.2

(Continued)

Table 14 (Concluded)

USER ID F727   FILE - GERMNY   PAGE 0019

```
1371 1. 3. 6. 7.2.  9.2.5.6.0.1.2.0.2.2.2.2.2.2.2.2
1372 1. 3. 6. 7.2.  9.1.4.6.0.1.2.0.2.2.2.2.2.2.2.2
1373 1. 3. 6. 7.2.  9.1.4.7.0.2.2.0.2.2.2.2.2.3.2.2
1374 1. 3. 6. 7.2.  9.2.4.6.1.1.2.0.2.2.2.2.2.2.2.2
1375 1. 3. 6. 7.2.  9.2.4.6.0.1.2.0.2.2.2.2.2.2.2.2
1376 1. 3. 6. 7.2.  9.2.4.7.0.2.2.0.2.2.2.2.2.2.2.2
1377 1. 3. 6. 7.2.14.1.5.1.1.1.2.0.2.2.2.2.2.2.2.2
1378 1. 3. 6. 7.2.14.1.5.6.1.1.2.0.2.2.2.2.2.2.2.2
1379 1. 3. 6. 7.2.14.2.5.6.1.1.2.0.2.2.2.2.2.2.2.2
1380 1. 3. 6. 7.2.14.2.5.6.0.1.2.0.2.2.2.2.2.2.2.2
1381 1. 3. 6. 7.3.  3.1.3.6.1.1.2.0.2.2.2.2.2.2.2.2
1382 1. 3. 6. 7.3.  3.1.5.6.1.1.2.0.2.2.2.2.2.2.2.2
1383 1. 3. 6. 7.3.  3.1.5.7.0.2.2.0.2.2.2.2.2.2.2.2
1384 1. 3. 6. 7.3.  5.1.3.3.2.1.2.9.3.3.3.2.2.2.2.2
1385 1. 3. 6. 7.3.  5.2.5.6.0.1.2.0.2.2.2.2.2.2.2.2
1386 1. 3. 6. 7.3.  9.2.4.6.0.1.2.0.2.2.2.2.2.2.2.2
1387 1. 3. 6. 7.3.  9.2.4.7.0.2.2.0.2.2.2.2.2.2.2.2
1388 1. 3. 6. 7.3.  9.2.5.6.0.1.2.0.2.2.2.2.2.2.2.2
1389 1. 3. 6. 7.3.  9.3.4.7.0.2.2.0.2.2.2.2.2.2.2.2
```

```
1390 1. 3. 6. 7.3.14.1.5.1.1.1.2.0.2.2.2.2.2.2.2.2
1391 1. 3. 6. 7.4.  3.1.2.6.1.1.2.0.2.2.2.2.2.2.2.2
1392 1. 3. 6. 7.4.  3.1.5.6.1.1.2.0.2.2.2.2.2.2.2.2
1393 1. 3. 6. 7.4.  3.1.5.6.0.1.3.0.2.2.2.2.2.2.2.2
1394 1. 3. 6. 7.4.  5.2.5.6.0.1.2.0.2.2.2.2.2.2.2.2
1395 1. 3. 6. 7.4.  9.1.4.6.1.1.2.0.2.2.2.2.2.2.2.2
1396 1. 3. 6. 7.4.  9.2.4.6.0.1.2.0.2.2.2.2.2.2.2.2
1397 1. 3. 6. 7.4.  9.2.4.7.0.2.2.0.2.2.2.2.2.2.2.2
1398 1. 3. 6. 7.4.11.7.1.6.2.1.4.1.1.1.1.1.1.1.1.2
1399 1. 3. 6. 7.5.  3.1.5.6.1.1.2.1.1.1.1.1.1.1.1.2
1400 1. 3. 6. 7.5.  3.1.5.6.1.1.2.0.2.2.2.2.2.2.2.2
1401 1. 3. 6. 7.5.  7.3.1.5.1.1.2.0.2.2.2.2.2.2.2.2
1402 1. 3. 6. 7.5.  9.1.4.6.1.1.2.0.2.2.2.2.2.2.2.2
1403 1. 3. 6. 7.5.  9.2.4.6.0.1.2.0.2.2.2.2.2.2.2.2
1404 1. 3. 6. 7.5.  9.2.4.7.0.2.2.0.2.2.2.2.2.2.2.2
1405 1. 3. 6. 7.5.  9.3.4.6.0.1.2.0.2.2.2.2.2.2.2.2
1406 1. 3. 6. 7.5.14.1.5.1.1.1.2.0.2.2.2.2.2.2.2.2
1407 1. 3. 6. 7.6.  3.1.5.6.1.1.2.0.2.2.2.2.2.2.2.2
1408 1. 3. 6. 7.6.  0.2.4.6.0.1.4.0.2.2.2.2.2.2.2.2
```

(Concluded)

Table A15

Legend for West German Linear Terrain Units

USER ID [illegible]   FILE - [illegible]   PAGE 0004

LINEAR TERRAIN UNITS

<<<<<<<< FACTOR COMPLEX >>>>>>>>

MAP UNIT	SURFACE TYPE	DRY STRENGTH	AVG STRENGTH	WET STRENGTH	LT APPROACH ANGLE	DELTA BK HGT OR VERT HGT	RT APPROACH ANGLE	LOW BK HGT OR LST VERT HGT	BASE WIDTH OR TOP WIDTH	WATER DEPTH	MANNINGS COEF	STREAM GRADIENT	MAXIMUM VELOCITY
1	2.	1.	1.	1.	1.	1.	1.	2.	5.	1.	0.	0.	1
2	2.	1.	1.	1.	1.	1.	1.	1.	3.	1.	0.	0.	1
3	2.	1.	1.	1.	1.	1.	1.	1.	4.	1.	0.	0.	1
4	2.	1.	1.	1.	1.	1.	1.	1.	5.	1.	0.	0.	1
5	2.	1.	1.	1.	1.	1.	1.	1.	13.	1.	0.	0.	1
6	2.	1.	1.	1.	1.	1.	1.	2.	3.	1.	0.	0.	1
7	2.	1.	1.	1.	1.	1.	1.	2.	4.	1.	0.	0.	1
8	2.	1.	1.	1.	1.	1.	1.	2.	5.	1.	0.	0.	1
9	2.	1.	1.	1.	1.	1.	1.	2.	6.	1.	0.	0.	1
10	2.	1.	1.	1.	1.	1.	1.	3.	5.	1.	0.	0.	1
11	2.	1.	1.	1.	1.	1.	1.	3.	6.	1.	0.	0.	1
12	2.	1.	1.	1.	1.	1.	3.	1.	4.	1.	0.	0.	1
13	2.	1.	1.	1.	1.	1.	3.	1.	5.	1.	0.	0.	1
14	2.	1.	1.	1.	1.	1.	3.	2.	3.	1.	0.	0.	1
15	2.	1.	1.	1.	1.	1.	3.	2.	4.	1.	0.	0.	1
16	2.	1.	1.	1.	1.	1.	3.	2.	5.	1.	0.	0.	1
17	2.	1.	1.	1.	1.	1.	5.	3.	4.	1.	0.	0.	1
18	2.	1.	1.	1.	1.	1.	7.	1.	4.	1.	0.	0.	1
19	2.	1.	1.	1.	1.	2.	1.	1.	3.	1.	0.	0.	1
20	2.	1.	1.	1.	1.	2.	1.	1.	4.	1.	0.	0.	1
21	2.	1.	1.	1.	1.	2.	1.	1.	5.	1.	0.	0.	1
22	2.	1.	1.	1.	1.	2.	1.	2.	4.	1.	0.	0.	1

<<<<<<<< FACTOR COMPLEX >>>>>>>>

MAP UNIT	SURFACE TYPE	DRY STRENGTH	AVG STRENGTH	WET STRENGTH	LT APPROACH ANGLE	DELTA BK HGT OR VERT HGT	RT APPROACH ANGLE	LOW BK HGT OR LST VERT HGT	BASE WIDTH OR TOP WIDTH	WATER DEPTH	MANNINGS COEF	STREAM GRADIENT	MAXIMUM VELOCITY
23	2.	1.	1.	1.	1.	[illegible]	1.	4.	5.	1.	0.	0.	1
24	2.	1.	1.	1.	1.	[illegible]	3.	1.	3.	1.	0.	0.	1
25	2.	1.	1.	1.	1.	[illegible]	3.	2.	4.	1.	0.	0.	1
26	2.	1.	1.	1.	1.	[illegible]	3.	2.	5.	1.	0.	0.	1
27	2.	1.	1.	1.	1.	[illegible]	1.	1.	4.	1.	0.	0.	1
28	2.	1.	1.	1.	1.	[illegible]	1.	3.	4.	1.	0.	0.	1
29	2.	1.	1.	1.	1.	[illegible]	1.	3.	4.	1.	[illegible]	0.	1
30	2.	1.	1.	1.	1.	[illegible]	3.	2.	5.	1.	0.	[illegible]	[illegible]
31	2.	1.	1.	1.	1.	[illegible]	3.	2.	6.	1.	0.	0.	1
32	2.	1.	1.	1.	1.	6.	1.	1.	3.	1.	0.	0.	1
33	2.	1.	1.	1.	1.	6.	1.	1.	4.	1.	0.	0.	1
34	2.	1.	1.	1.	1.	6.	1.	1.	5.	1.	0.	0.	1
35	2.	1.	1.	1.	1.	6.	1.	2.	4.	1.	0.	0.	1
36	2.	1.	1.	1.	1.	6.	1.	2.	5.	1.	0.	0.	1
37	2.	1.	1.	1.	1.	6.	5.	2.	4.	1.	0.	0.	1
38	2.	1.	1.	1.	1.	7.	5.	1.	5.	1.	0.	0.	1
39	2.	1.	1.	1.	3.	1.	1.	1.	3.	1.	0.	0.	1
40	2.	1.	1.	1.	3.	1.	1.	1.	4.	1.	0.	0.	1
41	2.	1.	1.	1.	3.	1.	1.	1.	5.	1.	0.	0.	1
42	2.	1.	1.	1.	3.	[illegible]	1.	2.	3.	1.	0.	0.	1
43	2.	1.	1.	1.	3.	1.	1.	2.	5.	1.	0.	0.	1
44	2.	1.	[illegible]	1.	3.	1.	1.	3.	4.	1.	0.	0.	1

(Continued)

1 of 7 Sheets

Table A15 (Continued)

USER ID FSAA FILE - WOLEG PAGE 0002

45	2.	1.	1.	1.	3.1.	3.1.	3.1.0.	0.1
46	2.	1.	1.	1.	3.1.	3.1.	4.1.0.	0.1
47	2.	1.	1.	1.	3.1.	3.1.	5.1.0.	0.1
48	2.	1.	1.	1.	3.1.	3.1.	6.1.0.	0.1
49	2.	1.	1.	1.	3.1.	3.2.	3.1.0.	0.1
50	2.	1.	1.	1.	3.1.	3.2.	4.1.0.	0.1
51	2.	1.	1.	1.	3.1.	3.2.	5.1.0.	0.1
52	2.	1.	1.	1.	3.1.	3.2.	6.1.0.	0.1
53	2.	1.	1.	1.	3.1.	3.3.	3.1.0.	0.1
54	2.	1.	1.	1.	3.1.	3.3.	4.1.0.	0.1
55	2.	1.	1.	1.	3.1.	3.3.	5.1.0.	0.1
56	2.	1.	1.	1.	3.1.	3.3.	6.1.0.	0.1
57	2.	1.	1.	1.	3.1.	3.4.	3.1.0.	0.1
58	2.	1.	1.	1.	3.1.	3.4.	6.1.0.	0.1
59	2.	1.	1.	1.	3.1.	5.1.	3.1.0.	0.1
60	2.	1.	1.	1.	3.1.	5.1.	4.1.0.	0.1
61	2.	1.	1.	1.	3.1.	5.2.	3.1.0.	0.1
62	2.	1.	1.	1.	3.1.	5.2.	4.1.0.	0.1
63	2.	1.	1.	1.	3.1.	5.2.	5.1.0.	0.1
64	2.	1.	1.	1.	3.1.	5.2.	6.1.0.	0.1
65	2.	1.	1.	1.	3.1.	5.3.	6.1.0.	0.1
66	2.	1.	1.	1.	3.1.	7.1.	4.1.0.	0.1
67	2.	1.	1.	1.	3.1.	7.2.	3.1.0.	0.1
68	2.	1.	1.	1.	3.1.	7.2.	4.1.0.	0.1
69	2.	1.	1.	1.	3.1.	9.1.	3.1.0.	0.1
70	2.	1.	1.	1.	3.1.	9.3.	3.1.0.	0.1
71	2.	1.	1.	1.	3.1.	15.1.	5.1.0.	0.1
72	2.	1.	1.	1.	3.2.	1.2.	5.1.0.	0.1
73	2.	1.	1.	1.	3.2.	3.1.	3.1.0.	0.1
74	2.	1.	1.	1.	3.2.	3.2.	4.1.0.	0.1
75	2.	1.	1.	1.	3.2.	3.2.	5.1.0.	0.1
76	2.	1.	1.	1.	3.2.	3.3.	3.1.0.	0.1
77	2.	1.	1.	1.	3.2.	3.3.	5.1.0.	0.1
78	2.	1.	1.	1.	3.2.	5.1.	4.1.0.	0.1
79	2.	1.	1.	1.	3.2.	5.2.	4.1.0.	0.1
80	2.	1.	1.	1.	3.2.	5.3.	3.1.0.	0.1
81	2.	1.	1.	1.	3.3.	3.1.	5.1.0.	0.1
82	2.	1.	1.	1.	3.3.	3.2.	3.1.0.	0.1
83	2.	1.	1.	1.	3.3.	3.2.	4.1.0.	0.1
84	2.	1.	1.	1.	3.3.	3.2.	5.1.0.	0.1
85	2.	1.	1.	1.	3.3.	5.2.	3.1.0.	0.1
86	2.	1.	1.	1.	3.3.	5.2.	5.1.0.	0.1
87	2.	1.	1.	1.	3.6.	3.1.	3.1.0.	0.1
88	2.	1.	1.	1.	3.6.	3.1.	5.1.0.	0.1
89	2.	1.	1.	1.	3.6.	3.2.	3.1.0.	0.1
90	2.	1.	1.	1.	3.6.	3.2.	5.1.0.	0.1
91	2.	1.	1.	1.	3.6.	3.3.	3.1.0.	0.1
92	2.	1.	1.	1.	3.6.	3.3.	4.1.0.	0.1
93	2.	1.	1.	1.	3.6.	3.4.	3.1.0.	0.1
94	2.	1.	1.	1.	3.6.	5.1.	3.1.0.	0.1
95	2.	1.	1.	1.	3.6.	5.1.	4.1.0.	0.1
96	2.	1.	1.	1.	3.6.	5.2.	3.1.0.	0.1
97	2.	1.	1.	1.	3.6.	5.2.	4.1.0.	0.1
98	2.	1.	1.	1.	3.6.	5.2.	5.1.0.	0.1
99	2.	1.	1.	1.	3.6.	5.2.	6.1.0.	0.1
100	2.	1.	1.	1.	3.6.	5.3.	3.1.0.	0.1
101	2.	1.	1.	1.	3.7.	1.2.	3.1.0.	0.1
102	2.	1.	1.	1.	3.7.	3.2.	6.1.0.	0.1
103	2.	1.	1.	1.	3.7.	5.1.	3.1.0.	0.1
104	2.	1.	1.	1.	3.8.	5.2.	3.1.0.	0.1
105	2.	1.	1.	1.	3.8.	9.2.	3.1.0.	0.1
106	2.	1.	1.	1.	3.9.	3.2.	3.1.0.	0.1
107	2.	1.	1.	1.	5.1.	3.1.	3.1.0.	0.1
108	2.	1.	1.	1.	5.1.	3.1.	4.1.0.	0.1
109	2.	1.	1.	1.	5.1.	3.2.	3.1.0.	0.1
110	2.	1.	1.	1.	5.1.	3.2.	4.1.0.	0.1
111	2.	1.	1.	1.	5.1.	3.2.	5.1.0.	0.1
112	2.	1.	1.	1.	5.1.	5.1.	3.1.0.	0.1
113	2.	1.	1.	1.	5.1.	5.1.	4.1.0.	0.1
114	2.	1.	1.	1.	5.1.	5.2.	3.1.0.	0.1
115	2.	1.	1.	1.	5.1.	5.2.	4.1.0.	0.1
116	2.	1.	1.	1.	5.1.	5.2.	5.1.0.	0.1
117	2.	1.	1.	1.	5.1.	5.3.	3.1.0.	0.1
118	2.	1.	1.	1.	5.1.	5.3.	4.1.0.	0.1
119	2.	1.	1.	1.	5.1.	5.3.	6.1.0.	0.1
120	2.	1.	1.	1.	5.1.	7.1.	4.1.0.	0.1
121	2.	1.	1.	1.	5.1.	7.2.	3.1.0.	0.1
122	2.	1.	1.	1.	5.1.	7.2.	4.1.0.	0.1
123	2.	1.	1.	1.	5.1.	7.2.	5.1.0.	0.1
124	2.	1.	1.	1.	5.1.	7.3.	5.1.0.	0.1
125	2.	1.	1.	1.	5.1.	7.3.	6.1.0.	0.1
126	2.	1.	1.	1.	5.1.	7.7.	4.1.0.	0.1
127	2.	1.	1.	1.	5.1.	9.1.	3.1.0.	0.1
128	2.	1.	1.	1.	5.1.	13.2.	4.1.0.	0.1
129	2.	1.	1.	1.	5.1.	13.2.	5.1.0.	0.1
130	2.	1.	1.	1.	5.2.	3.1.	3.1.0.	0.1
131	2.	1.	1.	1.	5.2.	3.2.	5.1.0.	0.1
132	2.	1.	1.	1.	5.2.	5.1.	3.1.0.	0.1
133	2.	1.	1.	1.	5.2.	5.1.	4.1.0.	0.1
134	2.	1.	1.	1.	5.2.	9.1.	5.1.0.	0.1
135	2.	1.	1.	1.	5.2.	5.2.	4.1.0.	0.1
136	2.	1.	1.	1.	5.2.	5.3.	3.1.0.	0.1
137	2.	1.	1.	1.	5.2.	7.3.	3.1.0.	0.1
138	2.	1.	1.	1.	5.2.	9.1.	4.1.0.	0.1
139	2.	1.	1.	1.	5.3.	3.1.	4.1.0.	0.1
140	2.	1.	1.	1.	5.3.	3.1.	5.1.0.	0.1
141	2.	1.	1.	1.	5.3.	3.2.	4.1.0.	0.1
142	2.	1.	1.	1.	5.3.	3.2.	5.1.0.	0.1
143	2.	1.	1.	1.	5.3.	3.2.	6.1.0.	0.1
144	2.	1.	1.	1.	5.3.	5.2.	3.1.0.	0.1

(Continued)

Table A15 (Continued)

USER ID F5AA FILE - WGLES PAGE 0003

145	2.	1.	1.	1.	5.3.	5.3.	3.1.0.	0.1
146	2.	1.	1.	1.	5.3.	7.3.	3.1.0.	0.1
147	2.	1.	1.	1.	5.3.	7.3.	4.1.0.	0.1
148	2.	1.	1.	1.	5.4.	5.2.	5.1.0.	0.1
149	2.	1.	1.	1.	5.6.	3.1.	3.1.0.	0.1
150	2.	1.	1.	1.	5.6.	3.1.	4.1.0.	0.1
151	2.	1.	1.	1.	5.6.	3.2.	4.1.0.	0.1
152	2.	1.	1.	1.	5.6.	3.2.	5.1.0.	0.1
153	2.	1.	1.	1.	5.6.	5.1.	3.1.0.	0.1
154	2.	1.	1.	1.	5.6.	5.1.	4.1.0.	0.1
155	2.	1.	1.	1.	5.6.	5.2.	3.1.0.	0.1
156	2.	1.	1.	1.	5.6.	5.2.	4.1.0.	0.1
157	2.	1.	1.	1.	5.6.	5.2.	5.1.0.	0.1
158	2.	1.	1.	1.	5.6.	5.2.	6.1.0.	0.1
159	2.	1.	1.	1.	5.6.	7.2.	3.1.0.	0.1
160	2.	1.	1.	1.	5.6.	7.3.	3.1.0.	0.1
161	2.	1.	1.	1.	5.7.	3.2.	3.1.0.	0.1
162	2.	1.	1.	1.	5.7.	5.1.	4.1.0.	0.1
163	2.	1.	1.	1.	5.7.	7.2.	3.1.0.	0.1
164	2.	1.	1.	1.	5.7.	7.3.	3.1.0.	0.1
165	2.	1.	1.	1.	5.7.	11.2.	6.1.0.	0.1
166	2.	1.	1.	1.	5.7.	13.1.	5.1.0.	0.1
167	2.	1.	1.	1.	6.7.	6.3.	3.[illegible].0.	0.1
168	2.	1.	1.	1.	7.1.	3.2.	4.1.0.	0.1
169	2.	1.	1.	1.	7.1.	5.1.	3.1.0.	0.1
170	2.	1.	1.	1.	7.1.	5.1.	4.1.0.	0.1
171	2.	1.	1.	1.	7.1.	5.2.	3.1.0.	0.1
172	2.	1.	1.	1.	7.1.	5.2.	4.1.0.	0.1
173	2.	1.	1.	1.	7.1.	7.1.	3.1.0.	0.1
174	2.	1.	1.	1.	7.1.	7.1.	4.1.0.	0.1
175	2.	1.	1.	1.	7.1.	7.1.	5.1.0.	0.1
176	2.	1.	1.	1.	7.1.	7.1.	6.1.0.	0.1
177	2.	1.	1.	1.	7.1.	7.2.	3.1.0.	0.1
178	2.	1.	1.	1.	7.1.	7.2.	4.1.0.	0.1
179	2.	1.	1.	1.	7.1.	7.2.	5.1.0.	0.1
180	2.	1.	1.	1.	7.1.	7.3.	3.1.0.	0.1
181	2.	1.	1.	1.	7.1.	7.3.	4.1.0.	0.1
182	2.	1.	1.	1.	7.1.	7.3.	5.1.0.	0.1
183	2.	1.	1.	1.	7.1.	9.1.	3.1.0.	0.1
184	2.	1.	1.	1.	7.1.	9.1.	4.1.0.	0.1
185	2.	1.	1.	1.	7.1.	9.1.	5.1.0.	0.1
186	2.	1.	1.	1.	7.1.	9.2.	3.1.0.	0.1
187	2.	1.	1.	1.	7.1.	9.2.	4.1.0.	0.1
188	2.	1.	1.	1.	7.1.	9.3.	3.1.0.	0.1
189	2.	1.	1.	1.	7.1.	9.3.	4.1.0.	0.1
190	2.	1.	1.	1.	7.1.	11.2.	3.1.0.	0.1
191	2.	1.	1.	1.	7.1.	11.2.	4.1.0.	0.1
192	2.	1.	1.	1.	7.1.	11.2.	5.1.0.	0.1
193	2.	1.	1.	1.	7.1.	13.1.	4.1.0.	0.1
194	2.	1.	1.	1.	7.1.	15.4.	4.1.0.	0.1
195	2.	1.	1.	1.	7.1.	19.2.	4.1.0.	0.1
196	2.	1.	1.	1.	7.2.	3.2.	5.1.0.	0.1
197	2.	1.	1.	1.	7.2.	5.3.	3.1.0.	0.1
198	2.	1.	1.	1.	7.2.	7.1.	3.1.0.	0.1
199	2.	1.	1.	1.	7.2.	7.2.	4.1.0.	0.1
200	2.	1.	1.	1.	7.2.	7.2.	5.1.0.	0.1
201	2.	1.	1.	1.	7.2.	7.3.	3.1.0.	0.1
202	2.	1.	1.	1.	7.2.	9.1.	3.1.0.	0.1
203	2.	1.	1.	1.	7.2.	9.2.	3.1.0.	0.1
204	2.	1.	1.	1.	7.3.	3.2.	4.1.0.	0.1
205	2.	1.	1.	1.	7.3.	5.4.	3.1.0.	0.1
206	2.	1.	1.	1.	7.3.	7.1.	3.1.0.	0.1
207	2.	1.	1.	1.	7.3.	7.1.	5.1.0.	0.1
208	2.	1.	1.	1.	7.3.	7.3.	5.1.0.	0.1
209	2.	1.	1.	1.	7.3.	9.1.	3.1.0.	0.1
210	2.	1.	1.	1.	7.3.	11.2.	4.1.0.	0.1
211	2.	1.	1.	1.	7.6.	5.2.	5.1.0.	0.1
212	2.	1.	1.	1.	7.6.	7.1.	3.1.0.	0.1
213	2.	1.	1.	1.	7.6.	7.2.	3.1.0.	0.1
214	2.	1.	1.	1.	7.6.	7.2.	4.1.0.	0.1
215	2.	1.	1.	1.	7.6.	7.2.	6.1.0.	0.1
216	2.	1.	1.	1.	7.6.	9.1.	3.1.0.	0.1
217	2.	1.	1.	1.	7.6.	9.2.	3.1.0.	0.1
218	2.	1.	1.	1.	7.6.	9.2.	4.1.0.	0.1
219	2.	1.	1.	1.	7.6.	9.2.	5.1.0.	0.1
220	2.	1.	1.	1.	7.6.	9.3.	3.1.0.	0.1
221	2.	1.	1.	1.	7.6.	9.4.	3.1.0.	0.1
222	2.	1.	1.	1.	7.7.	5.1.	3.1.0.	0.1
223	2.	1.	1.	1.	7.7.	9.2.	4.1.0.	0.1
224	2.	1.	1.	1.	7.7.	9.2.	5.1.0.	0.1
225	2.	1.	1.	1.	7.7.	9.4.	3.1.0.	0.1
226	2.	1.	1.	1.	7.7.	15.4.	4.1.0.	0.1
227	2.	1.	1.	1.	7.9.	9.2.	3.1.0.	0.1
228	2.	1.	1.	1.	7.9.	9.2.	4.1.0.	0.1
229	2.	1.	1.	1.	8.1.	8.1.	3.3.0.	0.3
230	2.	1.	1.	1.	8.1.	8.1.	3.4.0.	0.3
231	2.	1.	1.	1.	8.1.	8.2.	3.1.0.	0.1
232	2.	1.	1.	1.	8.1.	8.2.	6.1.0.	0.1
233	2.	1.	1.	1.	8.1.	8.3.	3.4.0.	0.3
234	2.	1.	1.	1.	8.1.	8.3.	5.3.0.	0.3
235	2.	1.	1.	1.	8.2.	8.3.	3.1.0.	0.1
236	2.	1.	1.	1.	8.3.	8.4.	6.1.0.	0.1
237	2.	1.	1.	1.	8.6.	8.2.	4.1.0.	0.1
238	2.	1.	1.	1.	8.6.	8.3.	5.3.0.	0.3
239	2.	1.	1.	1.	8.6.	8.3.	8.1.0.	0.1
240	2.	1.	1.	1.	8.6.	10.3.	3.3.0.	0.3
241	2.	1.	1.	1.	8.6.	10.3.	4.3.0.	0.3
242	2.	1.	1.	1.	8.7.	8.3.	8.1.0.	0.1
243	2.	1.	1.	1.	9.1.	5.1.	3.1.0.	0.1
244	2.	1.	1.	1.	9.1.	5.3.	9.1.0.	0.1

(Continued)

3 of 7 Sheets

Table A15 (Continued)

USER ID F906 FILE - WGLEG PAGE 0004

245	2.	1.	1.	1.	9.1.	7.1.	3.1.0.	0.1
246	2.	1.	1.	1.	9.1.	7.1.	4.1.0.	0.1
247	2.	1.	1.	1.	9.1.	7.1.	5.1.0.	0.1
248	2.	1.	1.	1.	9.1.	7.1.	6.1.0.	0.1
249	2.	1.	1.	1.	9.1.	7.2.	3.1.0.	0.1
250	2.	1.	1.	1.	9.1.	7.2.	4.1.0.	0.1
251	2.	1.	1.	1.	9.1.	7.2.	5.1.0.	0.1
252	2.	1.	1.	1.	9.1.	7.2.	6.1.0.	0.1
253	2.	1.	1.	1.	9.1.	7.3.	5.1.0.	0.1
254	2.	1.	1.	1.	9.1.	9.1.	3.1.0.	0.1
255	2.	1.	1.	1.	9.1.	9.1.	4.1.0.	0.1
256	2.	1.	1.	1.	9.1.	9.1.	5.1.0.	0.1
257	2.	1.	1.	1.	9.1.	9.1.	6.1.0.	0.1
258	2.	1.	1.	1.	9.1.	9.2.	3.1.0.	0.1
259	2.	1.	1.	1.	9.1.	9.2.	4.1.0.	0.1
260	2.	1.	1.	1.	9.1.	9.2.	5.1.0.	0.1
261	2.	1.	1.	1.	9.1.	9.2.	6.1.0.	0.1
262	2.	1.	1.	1.	9.1.	9.3.	3.1.0.	0.1
263	2.	1.	1.	1.	9.1.	9.3.	4.1.0.	0.1
264	2.	1.	1.	1.	9.1.	9.3.	5.1.0.	0.1
265	2.	1.	1.	1.	9.1.	11.1.	3.1.0.	0.1
266	2.	1.	1.	1.	9.1.	11.2.	3.1.0.	0.1
267	2.	1.	1.	1.	9.1.	11.2.	5.1.0.	0.1
268	2.	1.	1.	1.	9.1.	11.2.	6.1.0.	0.1
269	2.	1.	1.	1.	9.1.	13.1.	4.1.0.	0.1
270	2.	1.	1.	1.	9.1.	13.3.	4.1.0.	0.1
271	2.	1.	1.	1.	9.2.	7.1.	3.1.0.	0.1
272	2.	1.	1.	1.	9.2.	7.1.	4.1.0.	0.1
273	2.	1.	1.	1.	9.2.	9.1.	3.1.0.	0.1
274	2.	1.	1.	1.	9.2.	9.1.	4.1.0.	0.1
275	2.	1.	1.	1.	9.2.	9.1.	5.1.0.	0.1
276	2.	1.	1.	1.	9.2.	9.2.	3.1.0.	0.1
277	2.	1.	1.	1.	9.2.	9.3.	3.1.0.	0.1
278	2.	1.	1.	1.	9.2.	11.2.	3.1.0.	0.1
279	2.	1.	1.	1.	9.2.	11.2.	4.1.0.	0.1
280	2.	1.	1.	1.	9.3.	7.2.	3.1.0.	0.1
281	2.	1.	1.	1.	9.3.	7.2.	4.1.0.	0.1
282	2.	1.	1.	1.	9.3.	7.3.	6.1.0.	0.1
283	2.	1.	1.	1.	9.3.	9.1.	3.1.0.	0.1
284	2.	1.	1.	1.	9.3.	9.3.	5.1.0.	0.1
285	2.	1.	1.	1.	9.3.	11.2.	5.1.0.	0.1
286	2.	1.	1.	1.	9.3.	11.3.	4.1.0.	0.1
287	2.	1.	1.	1.	9.3.	11.3.	5.1.0.	0.1
288	2.	1.	1.	1.	9.3.	11.4.	3.1.0.	0.1
289	2.	1.	1.	1.	9.3.	11.4.	4.1.0.	0.1
290	2.	1.	1.	1.	9.4.	11.4.	3.1.0.	0.1
291	2.	1.	1.	1.	9.6.	7.2.	3.1.0.	0.1
292	2.	1.	1.	1.	9.6.	9.1.	3.1.0.	0.1
293	2.	1.	1.	1.	9.6.	9.1.	4.1.0.	0.1
294	2.	1.	1.	1.	9.6.	9.1.	5.1.0.	0.1
295	2.	1.	1.	1.	9.6.	9.2.	3.1.0.	0.1
296	2.	1.	1.	1.	9.6.	9.2.	4.1.0.	0.1
297	2.	1.	1.	1.	9.6.	9.2.	5.1.0.	0.1
298	2.	1.	1.	1.	9.6.	9.3.	5.1.0.	0.1
299	2.	1.	1.	1.	9.6.	11.1.	4.1.0.	0.1
300	2.	1.	1.	1.	9.6.	11.1.	5.1.0.	0.1
301	2.	1.	1.	1.	9.6.	11.2.	3.1.0.	0.1
302	2.	1.	1.	1.	9.6.	11.2.	4.1.0.	0.1
303	2.	1.	1.	1.	9.6.	11.2.	5.1.0.	0.1
304	2.	1.	1.	1.	9.6.	11.3.	4.1.0.	0.1
305	2.	1.	1.	1.	9.7.	9.1.	3.1.0.	0.1
306	2.	1.	1.	1.	9.7.	9.1.	4.1.0.	0.1
307	2.	1.	1.	1.	9.7.	9.2.	4.1.0.	0.1
308	2.	1.	1.	1.	9.7.	9.2.	5.1.0.	0.1
309	2.	1.	1.	1.	9.7.	11.1.	3.1.0.	0.1
310	2.	1.	1.	1.	9.7.	11.1.	4.1.0.	0.1
311	2.	1.	1.	1.	9.7.	11.2.	3.1.0.	0.1
312	2.	1.	1.	1.	9.7.	11.2.	4.1.0.	0.1
313	2.	1.	1.	1.	9.7.	11.3.	5.1.0.	0.1
314	2.	1.	1.	1.	9.7.	13.1.	4.1.0.	0.1
315	2.	1.	1.	1.	9.7.	13.3.	5.1.0.	0.1
316	2.	1.	1.	1.	10.1.	0.1.	3.3.0.	0.3
317	2.	1.	1.	1.	10.1.	10.1.	3.3.0.	0.3
318	2.	1.	1.	1.	10.1.	10.1.	3.3.0.	0.4
319	2.	1.	1.	1.	10.1.	10.1.	3.4.0.	0.3
320	2.	1.	1.	1.	10.1.	10.2.	4.1.0.	0.1
321	2.	1.	1.	1.	10.1.	10.2.	5.1.0.	0.1
322	2.	1.	1.	1.	10.1.	10.3.	3.1.0.	0.1
323	2.	1.	1.	1.	10.2.	10.2.	3.1.0.	0.1
324	2.	1.	1.	1.	10.2.	10.3.	3.1.0.	0.3
325	2.	1.	1.	1.	10.3.	10.2.	4.3.0.	0.3
326	2.	1.	1.	1.	10.3.	10.2.	4.4.0.	0.3
327	2.	1.	1.	1.	10.6.	10.2.	5.1.0.	0.1
328	2.	1.	1.	1.	11.1.	3.2.	5.1.0.	0.1
329	2.	1.	1.	1.	11.1.	7.1.	3.1.0.	0.1
330	2.	1.	1.	1.	11.1.	7.2.	3.1.0.	0.1
331	2.	1.	1.	1.	11.1.	9.1.	4.1.0.	0.1
332	2.	1.	1.	1.	11.1.	9.1.	5.1.0.	0.1
333	2.	1.	1.	1.	11.1.	9.2.	3.1.0.	0.1
334	2.	1.	1.	1.	11.1.	9.3.	5.1.0.	0.1
335	2.	1.	1.	1.	11.1.	11.1.	3.1.0.	0.1
336	2.	1.	1.	1.	11.1.	11.1.	4.1.0.	0.1
337	2.	1.	1.	1.	11.1.	11.1.	5.1.0.	0.1
338	2.	1.	1.	1.	11.1.	11.1.	6.1.0.	0.1
339	2.	1.	1.	1.	11.1.	11.2.	3.1.0.	0.1
340	2.	1.	1.	1.	11.1.	11.2.	4.1.0.	0.1
341	2.	1.	1.	1.	11.1.	11.2.	5.1.0.	0.1
342	2.	1.	1.	1.	11.1.	11.2.	6.1.0.	0.1
343	2.	1.	1.	1.	11.1.	11.3.	4.1.0.	0.1
344	2.	1.	1.	1.	11.1.	11.4.	4.1.0.	0.1

(Continued)

Table A15 (Continued)

USER ID E38A   FILE - HOLES   PAGE 0005

345	2.	1.	1.	1.11.1.13.1.	4.1.0.	0.1
346	2.	1.	1.	1.11.1.13.1.	5.1.0.	0.1
347	2.	1.	1.	1.11.1.13.1.	6.1.0.	0.1
348	2.	1.	1.	1.11.1.13.2.	4.1.0.	0.1
349	2.	1.	1.	1.11.1.13.2.	5.1.0.	0.1
350	2.	1.	1.	1.11.1.13.3.	3.1.0.	0.1
351	2.	1.	1.	1.11.1.13.3.	5.1.0.	0.1
352	2.	1.	1.	1.11.1.16.2.	5.1.0.	0.1
353	2.	1.	1.	1.11.2. 3.2.	5.1.0.	0.1
354	2.	1.	1.	1.11.2. 9.1.	3.1.0.	0.1
355	2.	1.	1.	1.11.2. 9.1.	4.1.0.	0.1
356	2.	1.	1.	1.11.2. 9.1.	5.1.0.	0.1
357	2.	1.	1.	1.11.2. 9.2.	3.1.0.	0.1
358	2.	1.	1.	1.11.2. 9.2.	4.1.0.	0.1
359	2.	1.	1.	1.11.2.11.1.	3.1.0.	0.1
360	2.	1.	1.	1.11.2.11.2.	3.1.0.	0.1
361	2.	1.	1.	1.11.2.11.2.	4.1.0.	0.1
362	2.	1.	1.	1.11.2.11.2.	5.1.0.	0.1
363	2.	1.	1.	1.11.2.13.1.	3.1.0.	0.1
364	2.	1.	1.	1.11.2.13.1.	5.1.0.	0.1
365	2.	1.	1.	1.11.2.13.2.	4.1.0.	0.1
366	2.	1.	1.	1.11.2.17.2.	5.1.0.	0.1
367	2.	1.	1.	1.11.2.17.3.	5.1.0.	0.1
368	2.	1.	1.	1.11.3. 6.4.	5.1.0.	0.1
369	2.	1.	1.	1.11.3. 9.1.	3.1.0.	0.1
370	2.	1.	1.	1.11.3. 9.2.	4.1.0.	0.1
371	2.	1.	1.	1.11.3. 9.2.	5.1.0.	0.1
372	2.	1.	1.	1.11.3. 9.3.	5.1.0.	0.1
373	2.	1.	1.	1.11.3.11.1.	3.1.0.	0.1
374	2.	1.	1.	1.11.3.11.1.	5.1.0.	0.1
375	2.	1.	1.	1.11.3.11.2.	3.1.0.	0.1
376	2.	1.	1.	1.11.3.11.2.	5.1.0.	0.1
377	2.	1.	1.	1.11.3.11.4.	4.1.0.	0.1
378	2.	1.	1.	1.11.3.11.4.	6.1.0.	0.1
379	2.	1.	1.	1.11.3.13.2.	5.1.0.	0.1
380	2.	1.	1.	1.11.3.13.3.	3.1.0.	0.1
381	2.	1.	1.	1.11.4.11.2.	4.1.0.	0.1
382	2.	1.	1.	1.11.4.11.4.	3.1.0.	0.1
383	2.	1.	1.	1.11.4.15.4.	3.1.0.	0.1
384	2.	1.	1.	1.11.6. 9.1.	5.1.0.	0.1
385	2.	1.	1.	1.11.6. 9.2.	4.1.0.	0.1
386	2.	1.	1.	1.11.6. 9.3.	3.1.0.	0.1
387	2.	1.	1.	1.11.6. 9.3.	5.1.0.	0.1
388	2.	1.	1.	1.11.6.11.1.	3.1.0.	0.1
389	2.	1.	1.	1.11.6.11.2.	3.1.0.	0.1
390	2.	1.	1.	1.11.6.11.2.	4.1.0.	0.1
391	2.	1.	1.	1.11.6.11.2.	5.1.0.	0.1
392	2.	1.	1.	1.11.6.11.3.	4.1.0.	0.1
393	2.	1.	1.	1.11.6.13.1.	3.1.0.	0.1
394	2.	1.	1.	1.11.6.13.2.	4.1.0.	0.1
395	2.	1.	1.	1.11.6.13.2.	5.1.0.	0.1
396	2.	1.	1.	1.11.6.17.3.	5.1.0.	0.1
397	2.	1.	1.	1.11.7.11.1.	3.1.0.	0.1
398	2.	1.	1.	1.11.7.11.1.	4.1.0.	0.1
399	2.	1.	1.	1.11.7.11.2.	5.1.0.	0.1
400	2.	1.	1.	1.11.7.11.3.	3.1.0.	0.1
401	2.	1.	1.	1.11.7.11.4.	3.1.0.	0.1
402	2.	1.	1.	1.11.7.13.1.	3.1.0.	0.1
403	2.	1.	1.	1.11.7.13.1.	4.1.0.	0.1
404	2.	1.	1.	1.11.7.13.2.	4.1.0.	0.1
405	2.	1.	1.	1.11.7.13.2.	5.1.0.	0.1
406	2.	1.	1.	1.11.7.13.3.	5.1.0.	0.1
407	2.	1.	1.	1.11.7.15.2.	3.1.0.	0.1
408	2.	1.	1.	1.11.8. 9.3.	5.1.0.	0.1
409	2.	1.	1.	1.11.8. 9.4.	5.1.0.	0.1
410	2.	1.	1.	1.12.1.10.1.	4.3.0.	0.1
411	2.	1.	1.	1.12.1.12.1.	3.1.0.	0.1
412	2.	1.	1.	1.12.1.12.1.	3.3.0.	0.3
413	2.	1.	1.	1.12.1.12.1.	3.3.0.	0.3
414	2.	1.	1.	1.12.1.12.1.	4.1.0.	0.1
415	2.	1.	1.	1.12.1.12.2.	3.1.0.	0.1
416	2.	1.	1.	1.12.1.12.2.	3.3.0.	0.3
417	2.	1.	1.	1.12.1.12.2.	4.1.0.	0.1
418	2.	1.	1.	1.12.1.12.2.	4.3.0.	0.3
419	2.	1.	1.	1.12.1.12.2.	5.1.0.	0.1
420	2.	1.	1.	1.12.1.12.3.	3.1.0.	0.1
421	2.	1.	1.	1.12.1.12.3.	5.3.0.	0.4
422	2.	1.	1.	1.12.1.12.4.	3.3.0.	0.3
423	2.	1.	1.	1.12.1.14.1.	3.3.0.	0.3
424	2.	1.	1.	1.12.1.14.3.	5.3.0.	0.3
425	2.	1.	1.	1.12.1.14.4.	3.3.0.	0.3
426	2.	1.	1.	1.12.2.12.2.	3.3.0.	0.3
427	2.	1.	1.	1.12.2.12.3.	4.1.0.	0.1
428	2.	1.	1.	1.12.2.12.3.	5.3.0.	0.4
429	2.	1.	1.	1.12.2.12.3.	6.3.0.	0.4
430	2.	1.	1.	1.12.3.12.2.	4.1.0.	0.1
431	2.	1.	1.	1.12.6.10.1.	4.3.0.	0.3
432	2.	1.	1.	1.12.6.12.1.	5.3.0.	0.4
433	2.	1.	1.	1.12.6.12.2.	4.3.0.	0.3
434	2.	1.	1.	1.12.6.12.3.	5.3.0.	0.4
435	2.	1.	1.	1.12.6.12.4.	5.4.0.	0.3
436	2.	1.	1.	1.12.6.14.3.	5.3.0.	0.4
437	2.	1.	1.	1.12.7.12.2.	4.1.0.	0.1
438	2.	1.	1.	1.12.8.12.1.	4.1.0.	0.1
439	2.	1.	1.	1.13.1. 9.2.	4.1.0.	0.1
440	2.	1.	1.	1.13.1. 6.4.	21.1.0.	0.1
441	2.	1.	1.	1.13.1.11.1.	4.1.0.	0.1
442	2.	1.	1.	1.13.1.11.1.	5.1.0.	0.1
443	2.	1.	1.	1.13.1.11.1.	6.1.0.	0.1
444	2.	1.	1.	1.13.1.11.2.	3.1.0.	0.1

(Continued)

5 of 7 Sheets

Table A15 (Continued)

445	2.	1.	1.	1.13.1.11.2.	4.1.0.	0.1
446	2.	1.	1.	1.13.1.11.2.	5.1.0.	0.1
447	2.	1.	1.	1.13.1.11.3.	4.1.0.	0.1
448	2.	1.	1.	1.13.1.13.1.	4.1.0.	0.1
449	2.	1.	1.	1.13.1.13.2.	6.1.0.	0.1
450	2.	1.	1.	1.13.1.13.3.	6.1.0.	0.1
451	2.	1.	1.	1.13.1.15.1.	3.1.0.	0.1
452	2.	1.	1.	1.13.1.15.1.	5.1.0.	0.1
453	2.	1.	1.	1.13.1.15.2.	4.1.0.	0.1
454	2.	1.	1.	1.13.2. 7.2.	4.1.0.	0.1
455	2.	1.	1.	1.13.2.11.1.	4.1.0.	0.1
456	2.	1.	1.	1.13.2.11.2.	4.1.0.	0.1
457	2.	1.	1.	1.13.2.13.2.	4.1.0.	0.1
458	2.	1.	1.	1.13.2.13.2.	5.1.0.	0.1
459	2.	1.	1.	1.13.2.13.3.	5.1.0.	0.1
460	2.	1.	1.	1.13.2.13.4.	6.1.0.	0.1
461	2.	1.	1.	1.13.3. 9.2.	5.1.0.	0.1
462	2.	1.	1.	1.13.3.11.1.	3.1.0.	0.1
463	2.	1.	1.	1.13.3.11.4.	3.1.0.	0.1
464	2.	1.	1.	1.13.3.13.3.	4.1.0.	0.1
465	2.	1.	1.	1.13.3.13.4.	4.1.0.	0.1
466	2.	1.	1.	1.13.3.13.4.	5.1.0.	0.1
467	2.	1.	1.	1.13.3.13.4.	6.1.0.	0.1
468	2.	1.	1.	1.13.3.15.2.	5.1.0.	0.1
469	2.	1.	1.	1.13.6. 9.2.	5.1.0.	0.1
470	2.	1.	1.	1.13.6.11.1.	4.1.0.	0.1
471	2.	1.	1.	1.13.6.11.1.	6.1.0.	0.1
472	2.	1.	1.	1.13.6.11.2.	3.1.0.	0.1
473	2.	1.	1.	1.13.6.11.2.	4.1.0.	0.1
474	2.	1.	1.	1.13.6.11.2.	5.1.0.	0.1
475	2.	1.	1.	1.13.6.11.3.	4.1.0.	0.1
476	2.	1.	1.	1.13.6.11.4.	4.1.0.	0.1
477	2.	1.	1.	1.13.6.13.2.	4.1.0.	0.1
478	2.	1.	1.	1.13.6.13.2.	5.1.0.	0.1
479	2.	1.	1.	1.13.6.13.3.	6.1.0.	0.1
480	2.	1.	1.	1.13.6.15.1.	4.1.0.	0.1
481	2.	1.	1.	1.13.6.15.1.	5.1.0.	0.1
482	2.	1.	1.	1.13.6.15.2.	3.1.0.	0.1
483	2.	1.	1.	1.13.6.15.2.	5.1.0.	0.1
484	2.	1.	1.	1.13.7. 5.2.	5.1.0.	0.1
485	2.	1.	1.	1.13.7.11.1.	4.1.0.	0.1
486	2.	1.	1.	1.13.7.11.2.	4.1.0.	0.1
487	2.	1.	1.	1.13.7.11.2.	5.1.0.	0.1
488	2.	1.	1.	1.13.7.11.3.	4.1.0.	0.1
489	2.	1.	1.	1.13.7.11.4.	[illegible].1.0.	0.1
490	2.	1.	1.	1.13.7.13.3	3.1.0.	0.1
491	2.	1.	1.	1.13.7.13 [illegible].	4.1.0.	0.1
492	2.	1.	1.	1.13.7.15.1.	3.1.0.	0.1
493	2.	1.	1.	1.13.7.15.2.	5.1.0.	0.1
494	2.	1.	1.	1.13.7.15.4.	6.1.0.	0.1
495	2.	1.	1.	1.13.8.13.3.	6.1.0.	0.1
496	2.	1.	1.	1.13.8.15.4.	5.1.0.	0.1
497	2.	1.	1.	1.13.9.13.2.	4.1.0.	0.1
498	2.	1.	1.	1.14.1.12.3.	4.3.0.	0.4
499	2.	1.	1.	1.14.1.14.1.	3.1.0.	0.1
500	2.	1.	1.	1.14.1.14.1.	3.3.0.	0.3
501	2.	1.	1.	1.14.1.14.1.	3.4.0.	0.3
502	2.	1.	1.	1.14.1.14.4.	4.1.0.	0.1
503	2.	1.	1.	1.14.1.14.4.	5.4.0.	0.4
504	2.	1.	1.	1.14.1.16.1.	5.3.0.	0.3
505	2.	1.	1.	1.14.1.16.4.	3.3.0.	0.3
506	2.	1.	1.	1.14.1.16.4.	5.3.0.	0.3
507	2.	1.	1.	1.14.1.16.3.	5.1.0.	0.1
508	2.	1.	1.	1.14.6.12.3.	4.3.0.	0.4
509	2.	1.	1.	1.14.6.14.1.	3.3.0.	0.3
510	2.	1.	1.	1.14.6.14.3.	5.1.0.	0.1
511	2.	1.	1.	1.14.6.16.3.	5.3.0.	0.4
512	2.	1.	1.	1.14.6.14.4.	4.1.0.	0.1
513	2.	1.	1.	1.14.6.14.4.	5.4.0.	0.3
514	2.	1.	1.	1.14.7.14.3.	4.1.0.	0.1
515	2.	1.	1.	1.14.7.14.3.	5.3.0.	0.4
516	2.	1.	1.	1.14.7.14.3.	5.4.0.	0.3
517	2.	1.	1.	1.14.7.14.4.	4.1.0.	0.1
518	2.	1.	1.	1.14.7.14.4.	5.4.0.	0.3
519	2.	1.	1.	1.14.7.14.4.	5.4.0.	0.4
520	2.	1.	1.	1.14.7.14.5.	4.1.0.	0.1
521	2.	1.	1.	1.15.1.11.3.	3.1.0.	0.1
522	2.	1.	1.	1.15.1.13.1.	3.1.0.	0.1
523	2.	1.	1.	1.15.1.13.1.	4.1.0.	0.1
524	2.	1.	1.	1.15.1.13.2.	3.1.0.	0.1
525	2.	1.	1.	1.15.1.13.2.	4.1.0.	0.1
526	2.	1.	1.	1.15.1.13.3.	3.1.0.	0.1
527	2.	1.	1.	1.15.1.13.5.	3.1.0.	0.1
528	2.	1.	1.	1.15.1.13.5.	3.1.0.	0.1
529	2.	1.	1.	1.15.1.14.1.	4.1.0.	0.1
530	2.	1.	1.	1.15.1.15.1.	3.1.0.	0.1
531	2.	1.	1.	1.15.1.15.1.	4.1.0.	0.1
532	2.	1.	1.	1.15.1.15.1.	5.1.0.	0.1
533	2.	1.	1.	1.15.1.15.3.	5.1.0.	0.1
534	2.	1.	1.	1.15.1.15.4.	3.1.0.	0.1
535	2.	1.	1.	1.15.1.15.4.	5.1.0.	0.1
536	2.	1.	1.	1.15.3.11.3.	3.1.0.	0.1
537	2.	1.	1.	1.15.3.13.2.	4.1.0.	0.1
538	2.	1.	1.	1.15.3.15.3.	3.1.0.	0.1
539	2.	1.	1.	1.15.3.16.3.	4.1.0.	0.1
540	2.	1.	1.	1.15.3.13.4.	3.1.0.	0.1
541	2.	1.	1.	1.15.3.13.4.	4.1.0.	0.1
542	2.	1.	1.	1.15.3.13.2.	4.1.0.	0.1
543	2.	1.	1.	1.15.3.15.2.	5.1.0.	0.1
544	2.	1.	1.	1.15.3.16.2.	5.1.0.	0.1

(Continued)

Table A15 (Concluded)

USER ID F386 FILE - NGLGG PAGE 0007

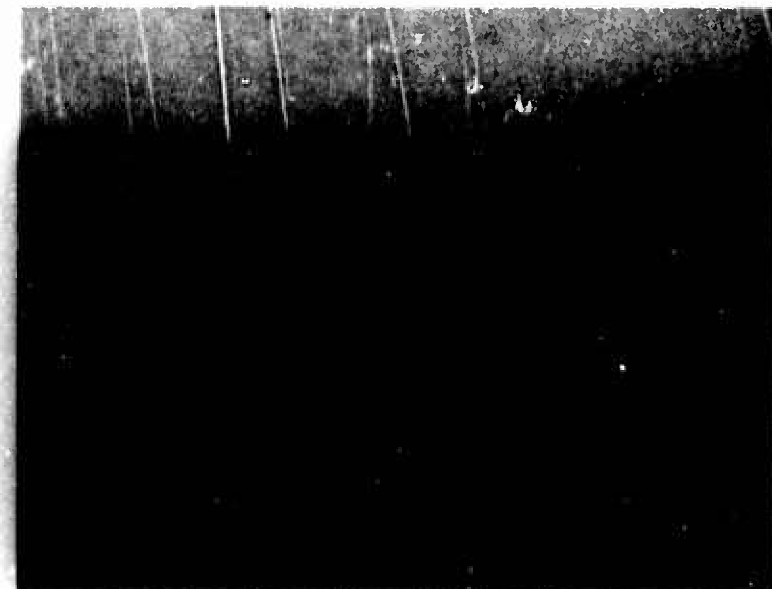
545	2.	1.	1.	1.15.4.13.4.	3.1.0.	0.1
546	2.	1.	1.	1.15.4.15.1.	3.1.0.	0.1
547	2.	1.	1.	1.15.4.15.2.	4.1.0.	0.1
548	2.	1.	1.	1.15.4.15.4.	3.1.0.	0.1
549	2.	1.	1.	1.15.5.16.4.	4.1.0.	0.1
550	2.	1.	1.	1.15.6.13.1.	3.1.0.	0.1
551	2.	1.	1.	1.15.6.13.1.	4.1.0.	0.1
552	2.	1.	1.	1.15.6.13.2.	3.1.0.	0.1
553	2.	1.	1.	1.15.6.13.2.	6.1.0.	0.1
554	2.	1.	1.	1.15.6.13.4.	5.1.0.	0.1
555	2.	1.	1.	1.15.6.13.4.	6.1.0.	0.1
556	2.	1.	1.	1.15.7. 7.4.	3.1.0.	0.1
557	2.	1.	1.	1.15.7.13.1.	4.1.0.	0.1
558	2.	1.	1.	1.15.7.13.4.	3.1.0.	0.1
559	2.	1.	1.	1.15.7.15.1.	3.1.0.	0.1
560	2.	1.	1.	1.15.7.17.2.	4.1.0.	0.1
561	2.	1.	1.	1.15.8.13.3.	3.1.0.	0.1
562	2.	1.	1.	1.15.9.15.2.	3.1.0.	0.1
563	2.	1.	1.	1.15.9.15.2.	4.1.0.	0.1
564	2.	1.	1.	1.16.1.14.1.	4.1.0.	0.1
565	2.	1.	1.	1.16.1.14.1.	5.1.0.	0.1
566	2.	1.	1.	1.16.1.15.2.	4.1.0.	0.1
567	2.	1.	1.	1.16.1.16.1.	3.1.0.	0.1
568	2.	1.	1.	1.16.1.16.1.	3.1.0.	0.3
569	2.	1.	1.	1.16.1.16.1.	3.3.0.	0.3
570	2.	1.	1.	1.16.1.16.1.	3.4.0.	0.3
571	2.	1.	1.	1.16.1.16.2.	4.1.0.	0.1
572	2.	1.	1.	1.16.1.16.2.	5.1.0.	0.1
573	2.	1.	1.	1.16.1.16.3.	3.2.0.	0.2
574	2.	1.	1.	1.16.1.16.4.	3.2.0.	0.2
575	2.	1.	1.	1.16.1.16.4.	5.1.0.	0.1
576	2.	1.	1.	1.16.2.16.3.	4.3.0.	0.3
577	2.	1.	1.	1.16.2.16.3.	4.3.0.	0.3
578	2.	1.	1.	1.16.4.16.4.	3.1.0.	0.1
579	2.	1.	1.	1.16.5.12.4.	4.1.0.	0.1
580	2.	1.	1.	1.16.6.16.2.	3.3.0.	0.3
581	2.	1.	1.	1.16.6.16.3.	3.1.0.	0.1
582	2.	1.	1.	1.16.6.16.3.	5.1.0.	0.1
583	2.	1.	1.	1.16.6.16.4.	5.1.0.	0.1
584	2.	1.	1.	1.16.6.16.4.	5.5.0.	0.3
585	2.	1.	1.	1.16.6.16.4.	6.5.0.	0.3
586	2.	1.	1.	1.16.6.13.2.	3.3.0.	0.3
587	2.	1.	1.	1.16.7.16.3.	8.1.0.	0.1
588	2.	1.	1.	1.16.7.16.4.	4.1.0.	0.1
589	2.	1.	1.	1.16.7.16.2.	3.3.0.	0.3
590	2.	1.	1.	1.16.8.16.3.	5.1.0.	0.1
591	2.	1.	1.	1.16.8.16.4.	3.1.0.	0.1
592	2.	1.	1.	1.16.8.16.4.	5.1.0.	0.1
593	2.	1.	1.	1.17.1.17.2.	4.1.0.	0.1
594	2.	1.	1.	1.17.1.17.3.	3.1.0.	0.1
595	2.	1.	1.	1.17.1.17.4.	9.1.0.	0.1
596	2.	1.	1.	1.17.2. 9.1.	3.1.0.	0.1
597	2.	1.	1.	1.17.2.11.1.	4.1.0.	0.1
598	2.	1.	1.	1.17.6.17.4.	4.1.0.	0.1
599	2.	1.	1.	1.17.7.11.2.	4.1.0.	0.1
600	2.	1.	1.	1.17.7.17.4.	4.1.0.	0.1
601	2.	1.	1.	1.18.1.18.1.	4.1.0.	0.1
602	2.	1.	1.	1.18.1.18.1.	9.1.0.	0.1
603	2.	1.	1.	1.18.1.18.1.	3.3.0.	0.3
604	2.	1.	1.	1.18.1.18.3.	9.1.0.	0.1
605	2.	1.	1.	1.18.1.18.4.	5.4.0.	0.3
606	2.	1.	1.	1.18.1.18.7.	9.1.0.	0.1
607	2.	1.	1.	1.18.1.21.6.	21.5.0.	0.4
608	2.	1.	1.	1.18.3.18.4.	5.4.0.	0.3
609	2.	1.	1.	1.18.6.18.4.	5.4.0.	0.3
610	2.	1.	1.	1.18.7.18.3.	8.1.0.	0.1
611	2.	1.	1.	1.18.7.18.4.	5.1.0.	0.1
612	2.	1.	1.	1.18.9.21.6.	21.5.0.	0.4
613	2.	1.	1.	1.18.9.21.7.	21.5.0.	0.4
614	2.	1.	1.	1.19.1.19.6.	9.1.0.	0.1
615	2.	1.	1.	1.19.1.19.7.	9.1.0.	0.1
616	2.	1.	1.	1.19.1.19.8.	9.1.0.	0.1
617	2.	1.	1.	1.19.3. 3.1.	5.1.0.	0.1
618	2.	1.	1.	1.20.1.20.4.	5.4.0.	0.4
619	2.	1.	1.	1.20.1.21.6.	21.5.0.	0.4
620	2.	1.	1.	1.20.1.21.7.	21.5.0.	0.4
621	2.	1.	1.	1.20.2.20.4.	5.4.0.	0.4
622	2.	1.	1.	1.20.3.21.6.	21.5.0.	0.4
623	2.	1.	1.	1.20.5. 7.2.	4.1.0.	0.1
624	2.	1.	1.	1.20.5. 8.1.	5.1.0.	0.1
625	2.	1.	1.	1.20.5.21.7.	21.5.0.	0.4
626	2.	1.	1.	1.20.6.21.6.	21.5.0.	0.4
627	2.	1.	1.	1.20.6.21.7.	21.5.0.	0.4
628	2.	1.	1.	1.20.8.21.7.	21.5.0.	0.4
629	2.	1.	1.	1.21.1. 8.4.	21.5.0.	0.3
630	2.	1.	1.	1.21.1.18.6.	21.5.0.	0.4
631	2.	1.	1.	1.21.1.20.6.	21.5.0.	0.4
632	2.	1.	1.	1.21.1.20.7.	21.5.0.	0.4
633	2.	1.	1.	1.21.3.20.6.	21.5.0.	0.4
634	2.	1.	1.	1.21.3.18.7.	21.5.0.	0.4
635	2.	1.	1.	1.21.5.20.7.	21.5.0.	0.4
636	2.	1.	1.	1.21.6.18.7.	21.5.0.	0.4
637	2.	1.	1.	1.21.6.20.6.	21.5.0.	0.4
638	2.	1.	1.	1.21.9.20.7.	21.5.0.	0.4
639	2.	1.	1.	1.21.8.20.7.	21.5.0.	0.4
640	2.	1.	1.	1.21.9.18.6.	21.5.0.	0.4
641	2.	1.	1.	1.21.9.18.7.	21.5.0.	0.4

(Concluded)

7 of 7 Sheets

Photograph A1. Small diameter hardwood trees in FK1 Areal Terrain Unit 60

Photograph A2. Hardwood trees with scattered logs in FK1 Areal Terrain Unit 122



Photograph A3. Open grassland in FK1 Areal Terrain Unit 192

Photograph A4. Small drainage ditch at upper end of Hudic Lake in FK1, Linear Terrain Unit 11

Photograph A5. Salt River in FK1 Linear
Terrain Unit 6

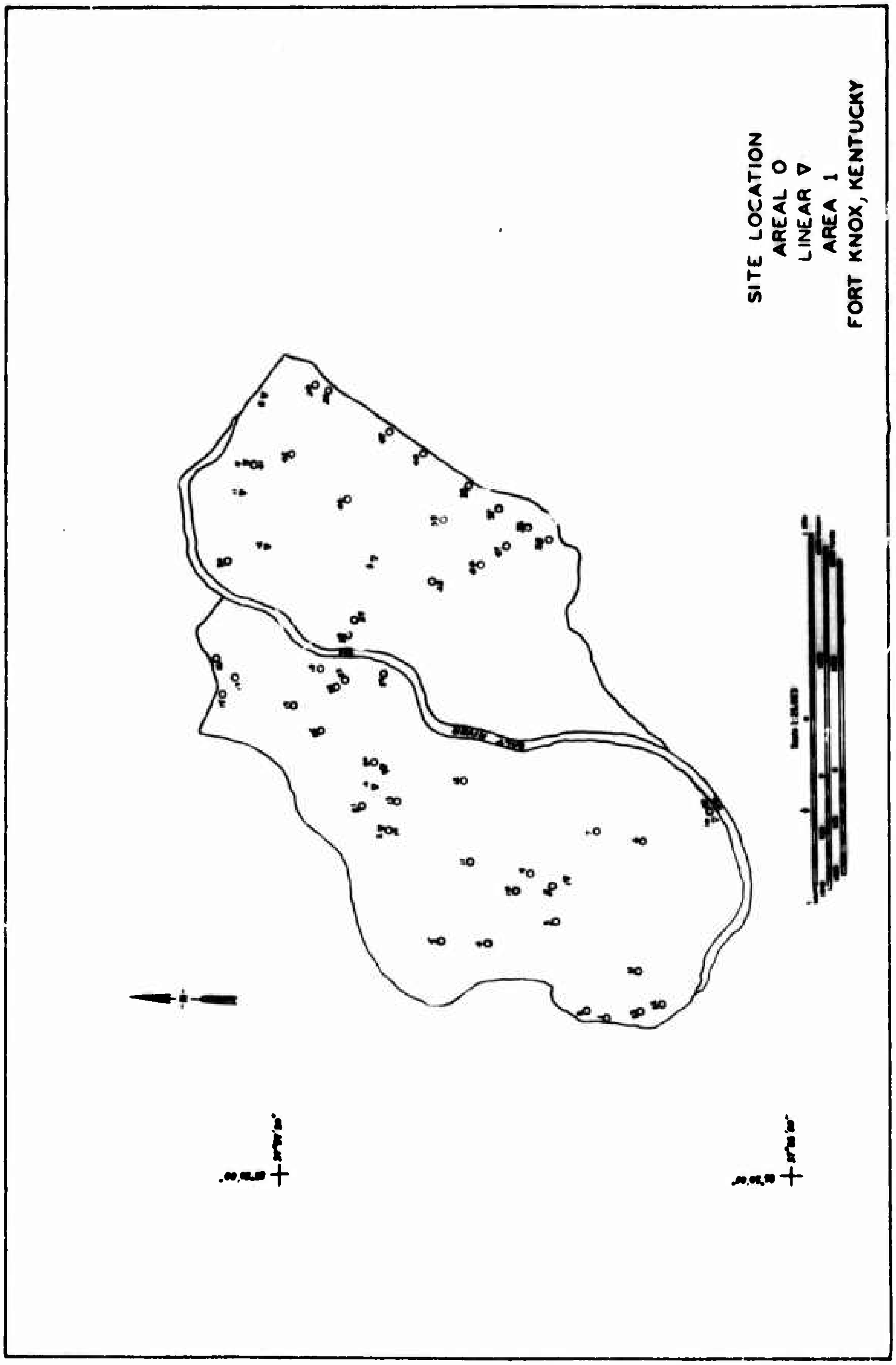


PLATE A1

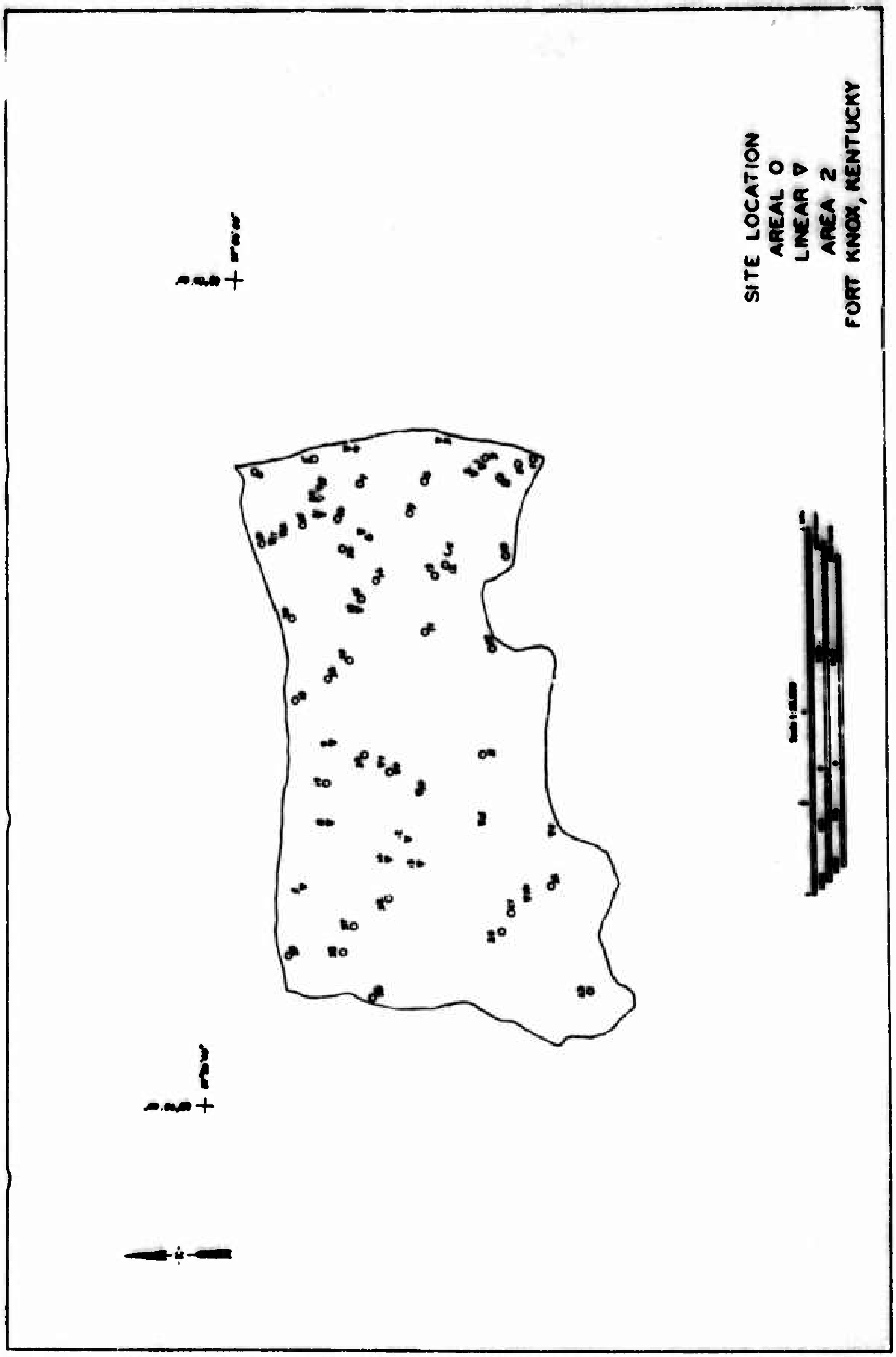


PLATE A2

AREAL TERRAIN FACTOR
COMPLEX MAP
AREA 1
FORT KNOX, KENTUCKY

PLATE A3

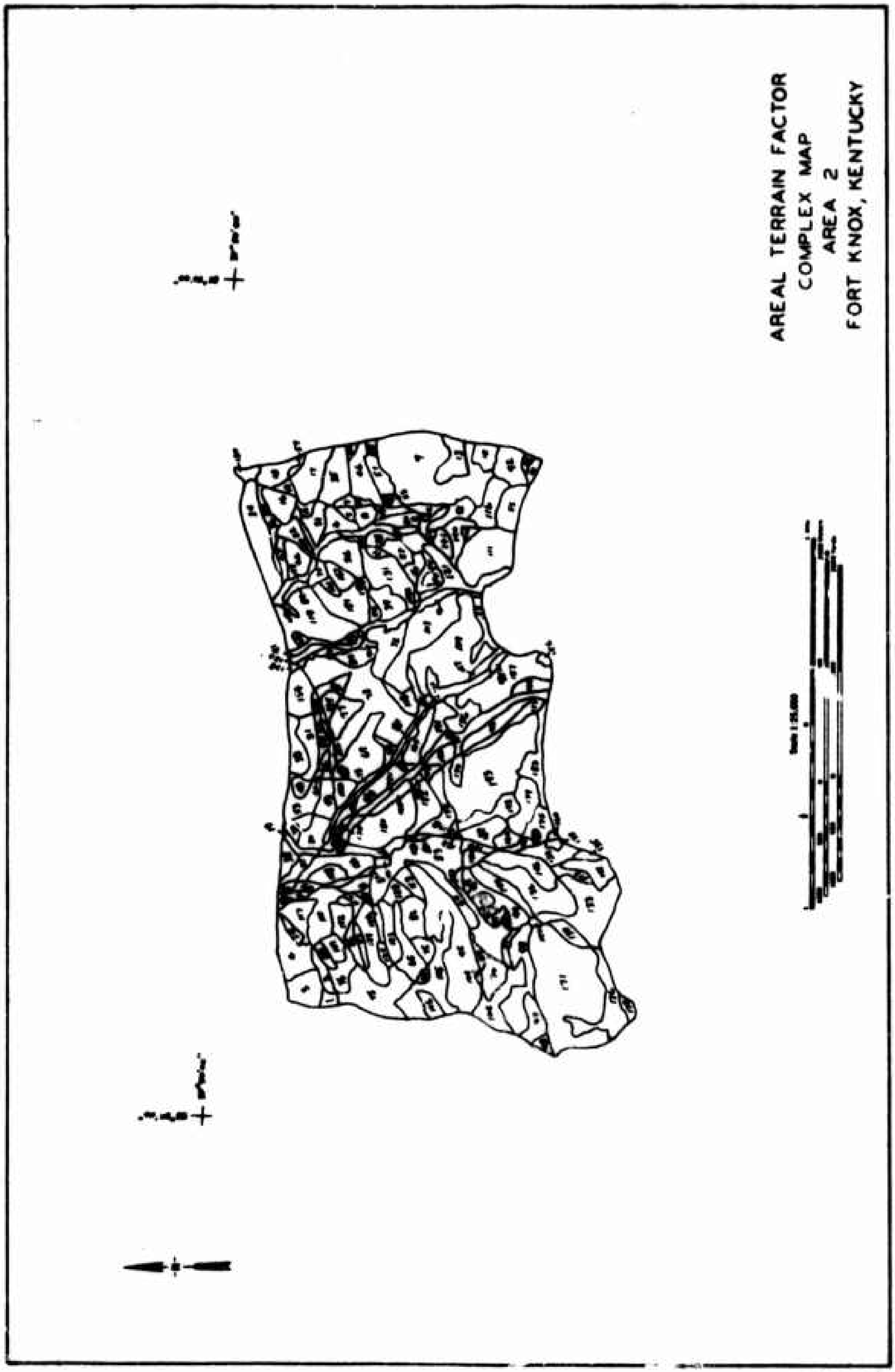


PLATE A4

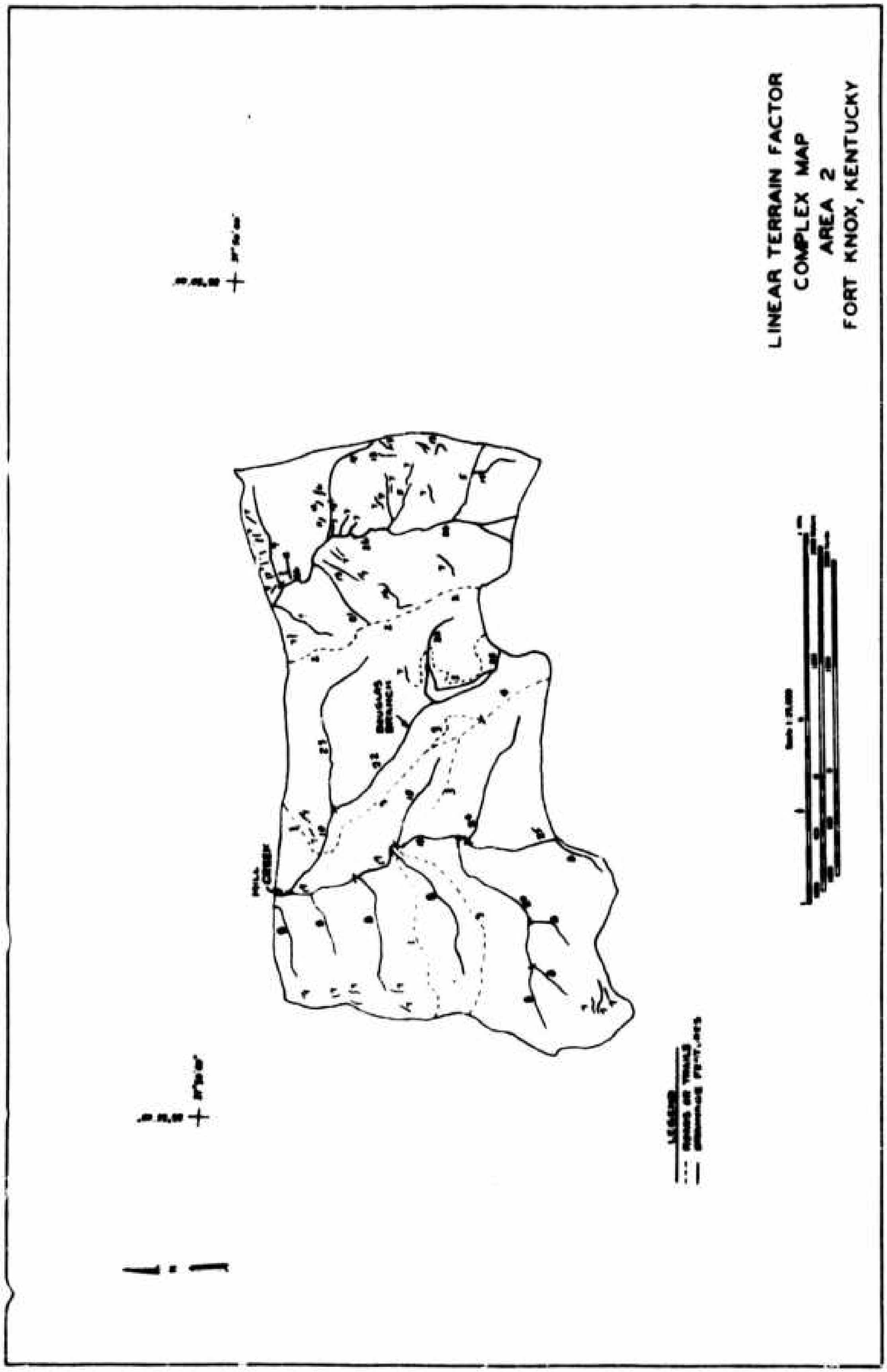

LINEAR TERRAIN FACTOR
COMPLEX MAP
AREA 2
FORT KNOX, KENTUCKY

PLATE A5

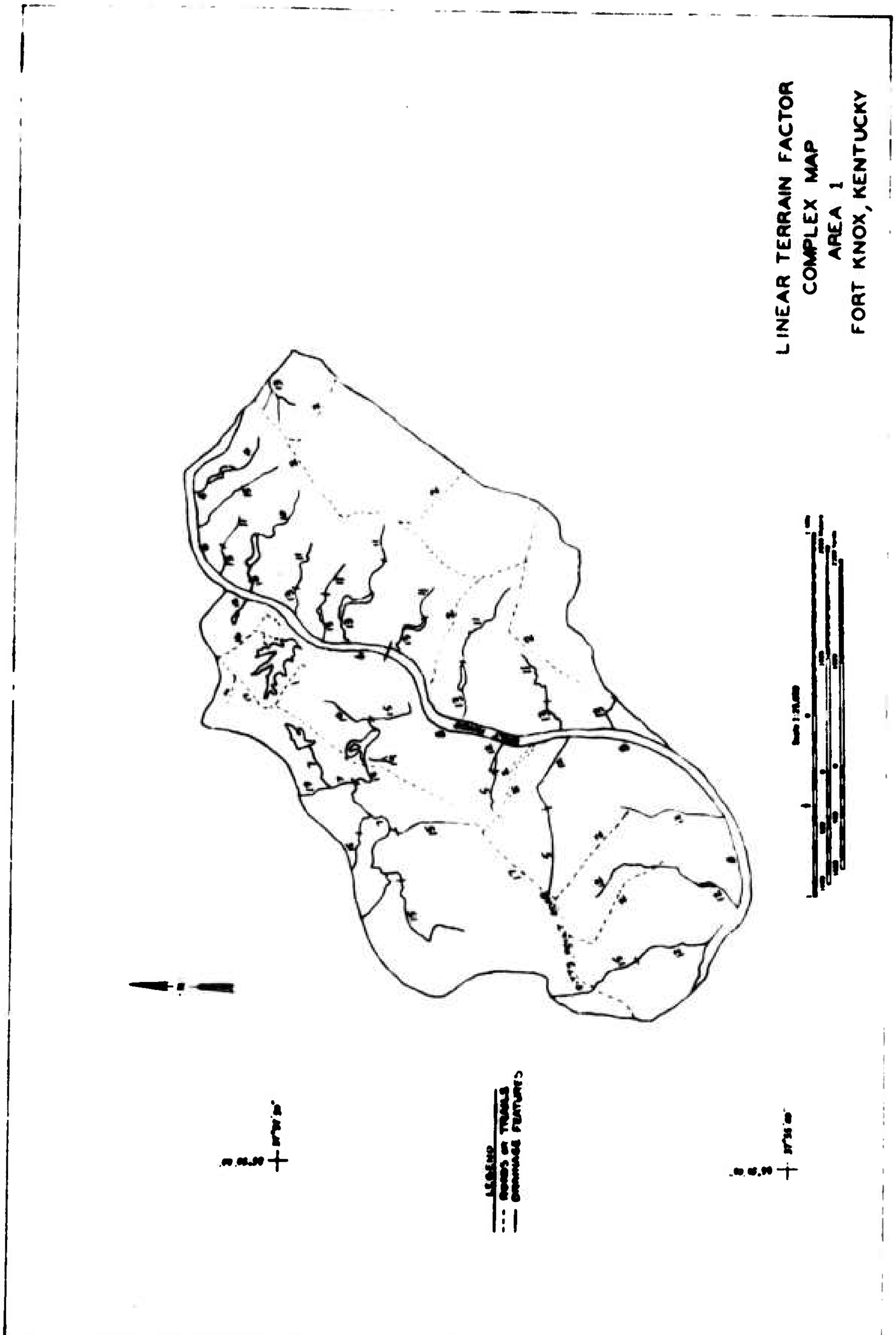
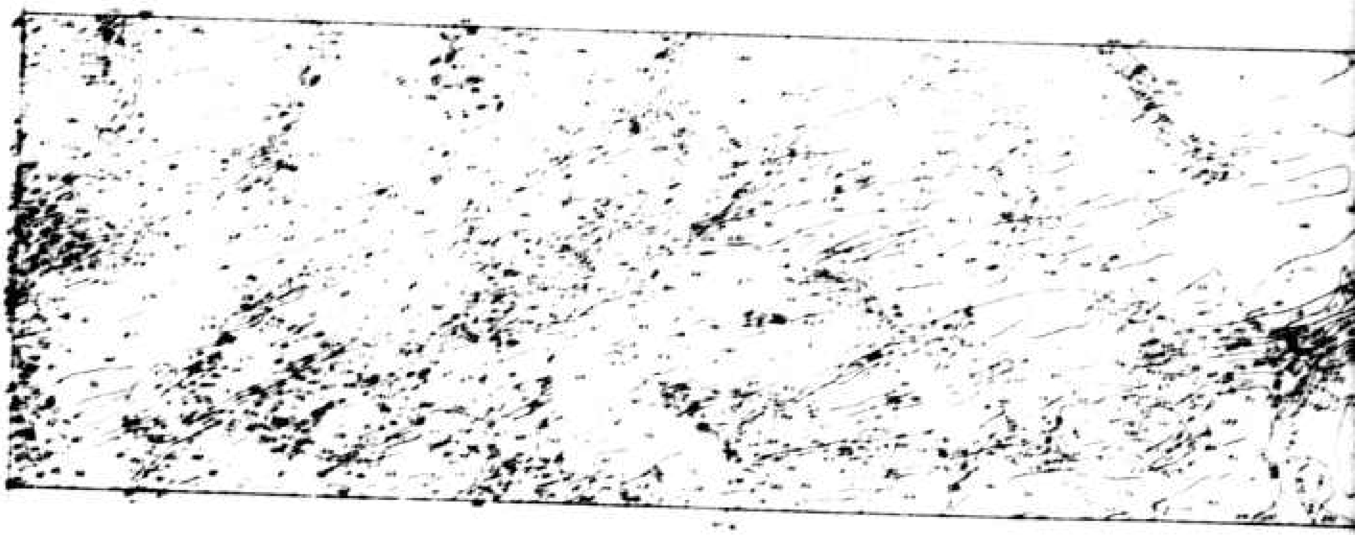
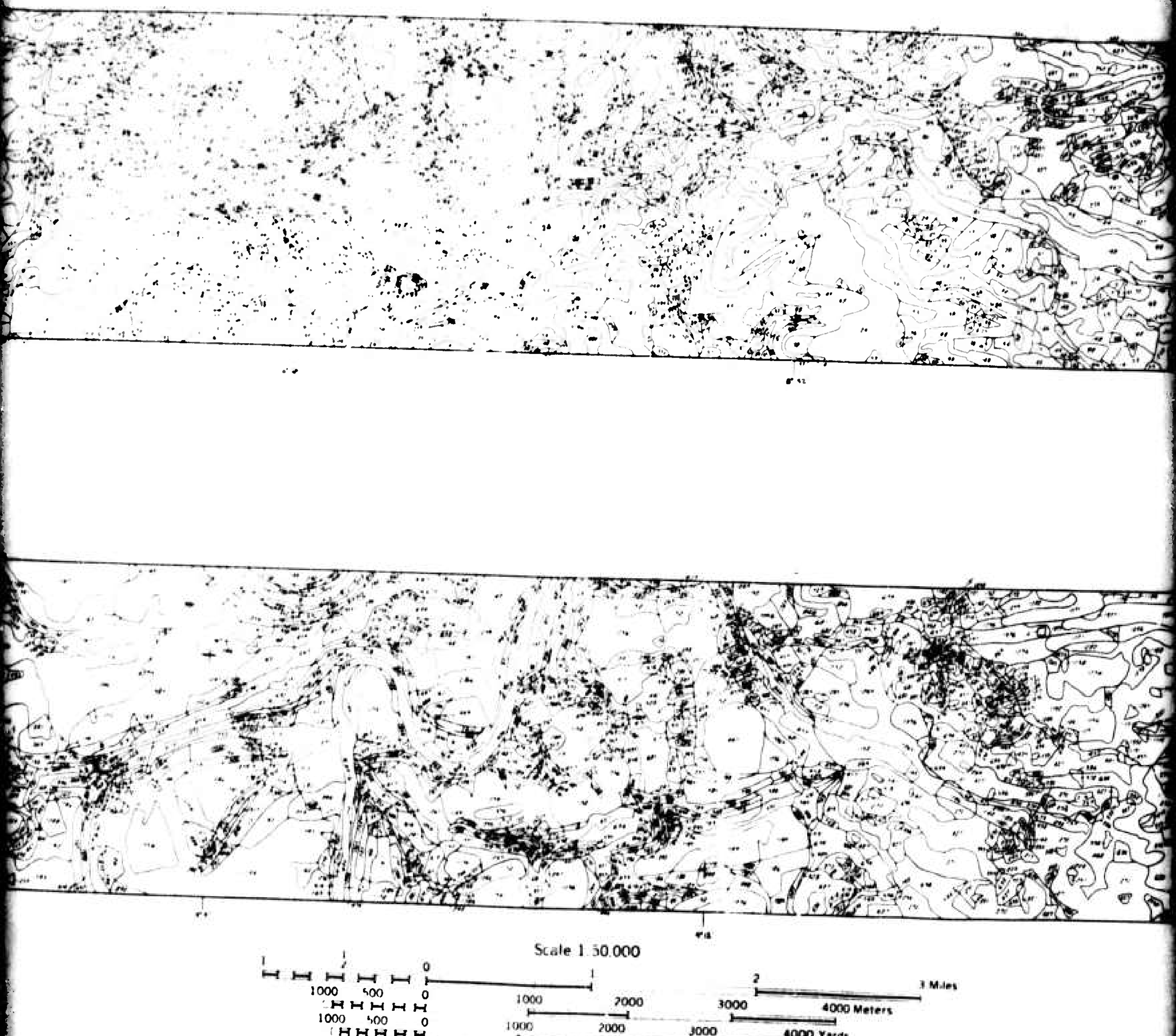

LINEAR TERRAIN FACTOR
COMPLEX MAP
AREA 1
FORT KNOX, KENTUCKY
LEGEND
ROADS OR TRAILS
DRAINAGE FEATURES

PLATE A6

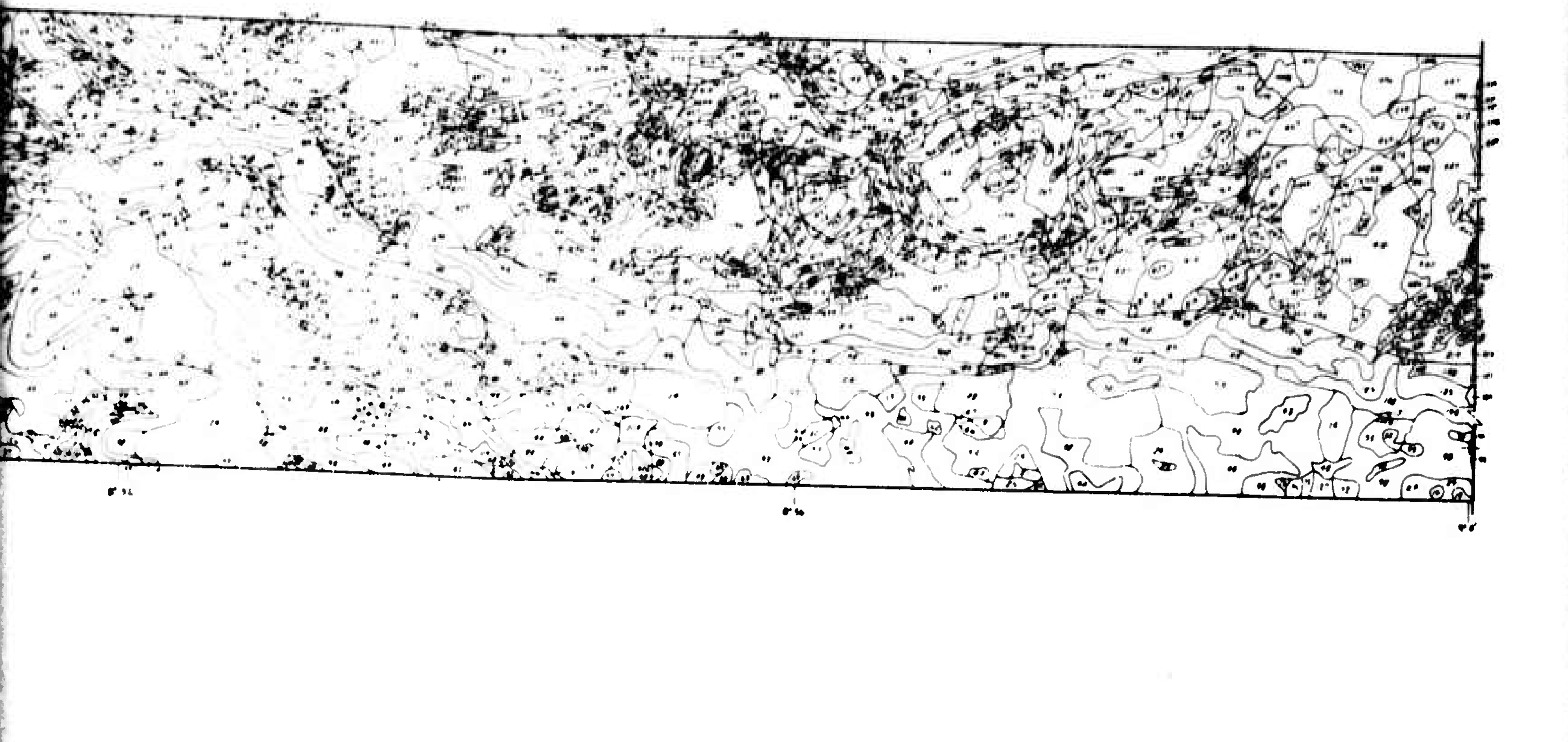


A


Scale 1:50,000
1000 500 0
1 0 1 2 3 Miles
1000 2000 3000 4000 Meters
1000 2000 3000 4000 Yards

B

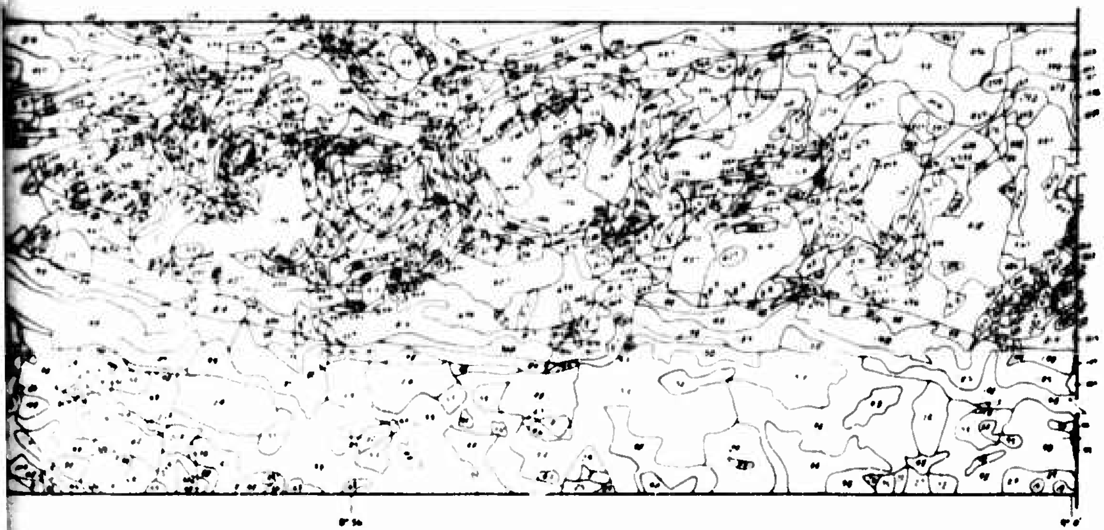
C

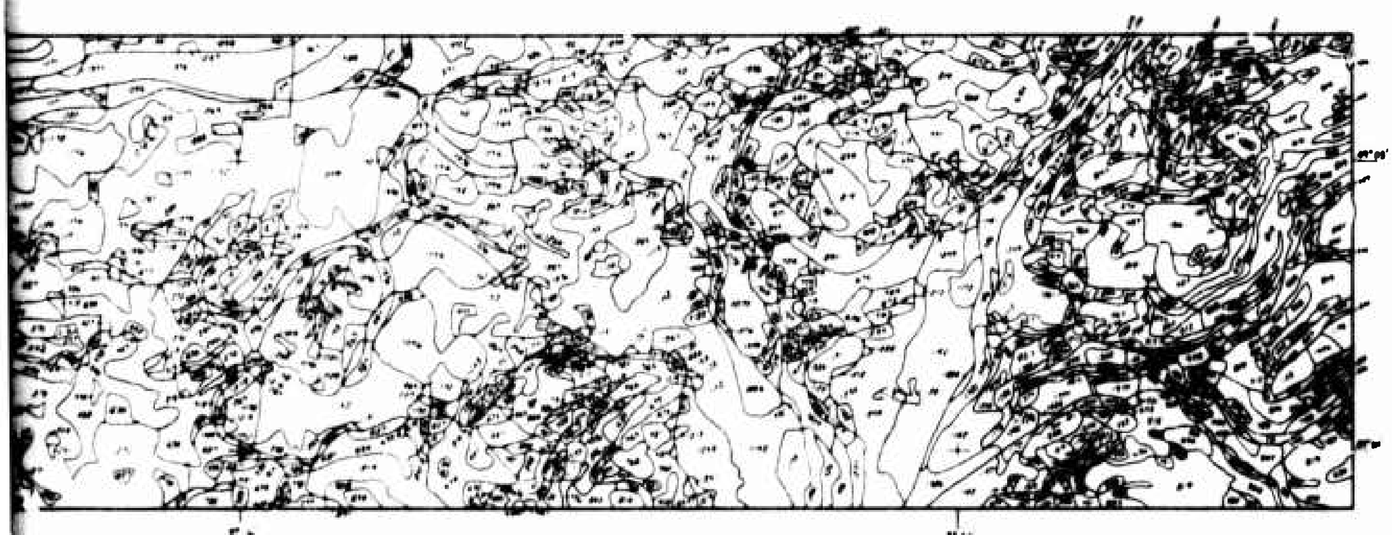


AREAL TERRAIN FACTOR COMPLEX
FOR
SELECTED TERRAIN IN WEST GER

C

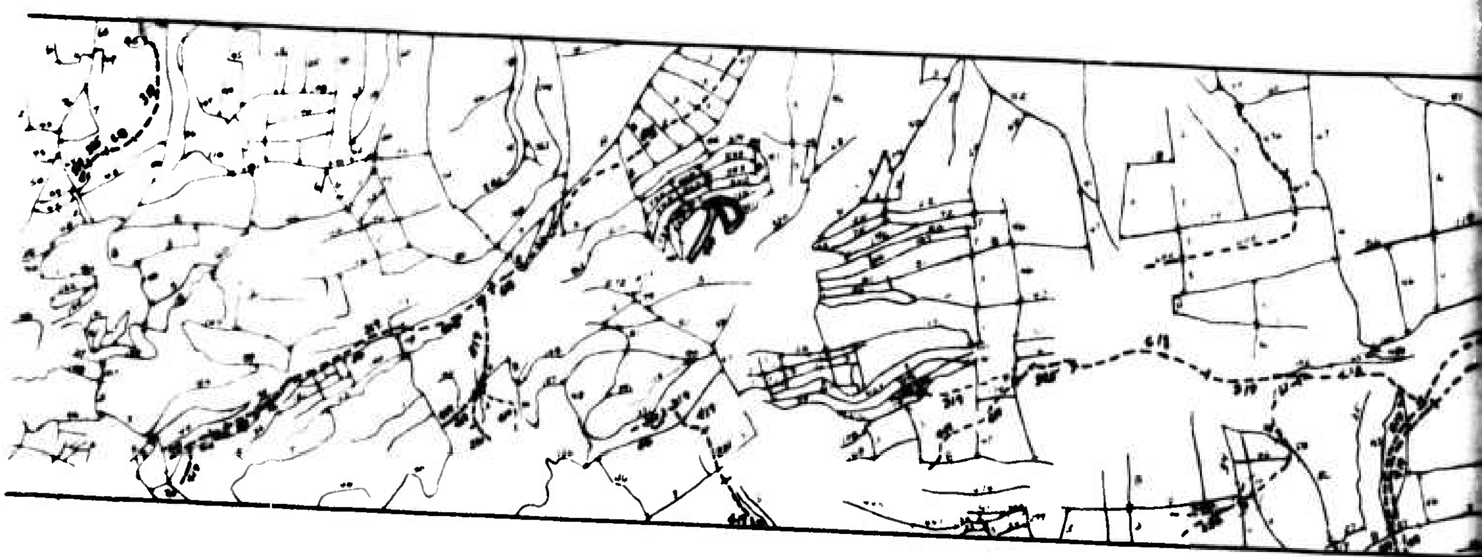
PLA



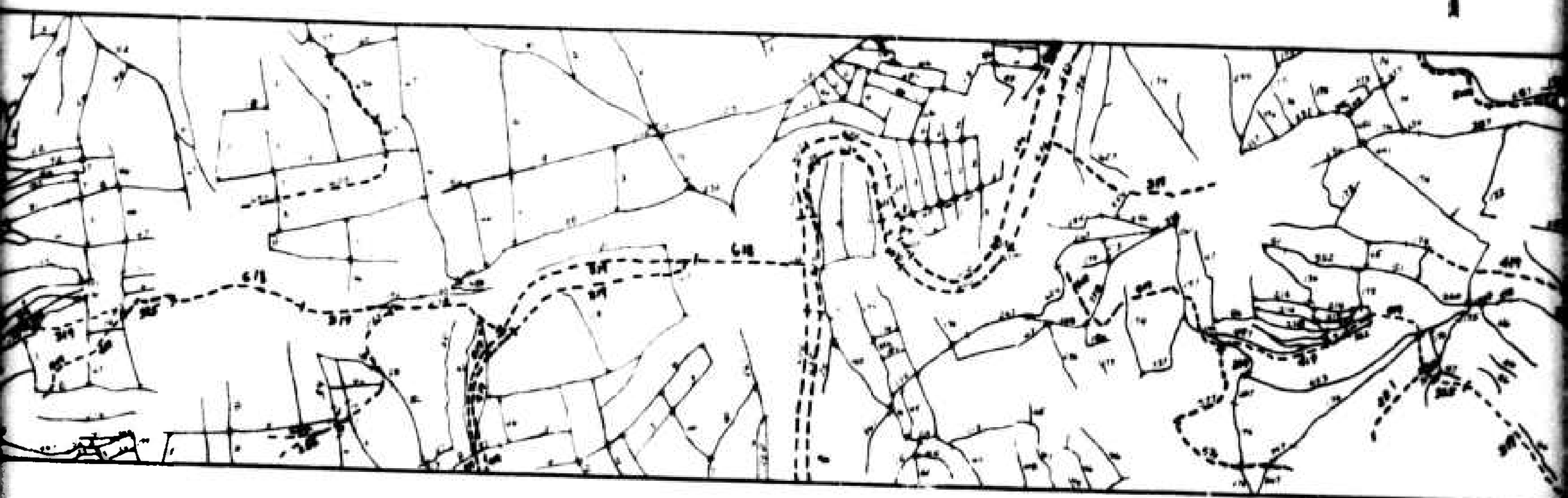


AREAL TERRAIN FACTOR COMPLEX MAP
FOR
SELECTED TERRAIN IN WEST GERMANY

PLATE A7



A



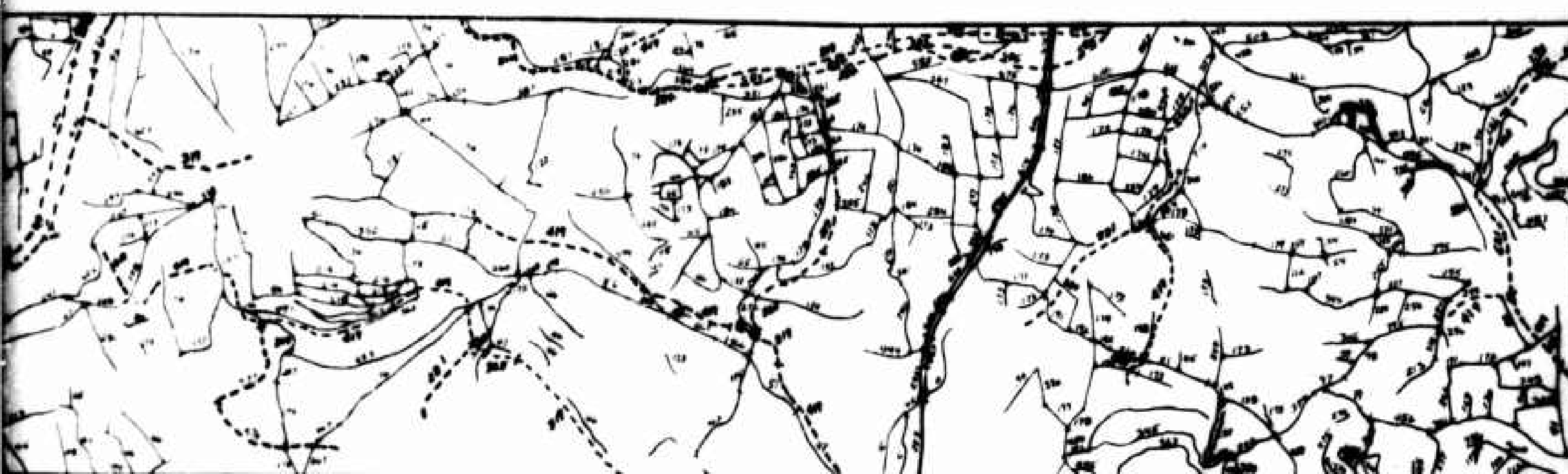
LEGEND

— ROAD EMBANKMENT

ROAD CUT

--- DRAINAGE FEATURE

B

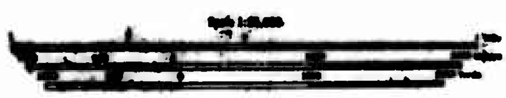


LEGEND

ROAD EMBANKMENT

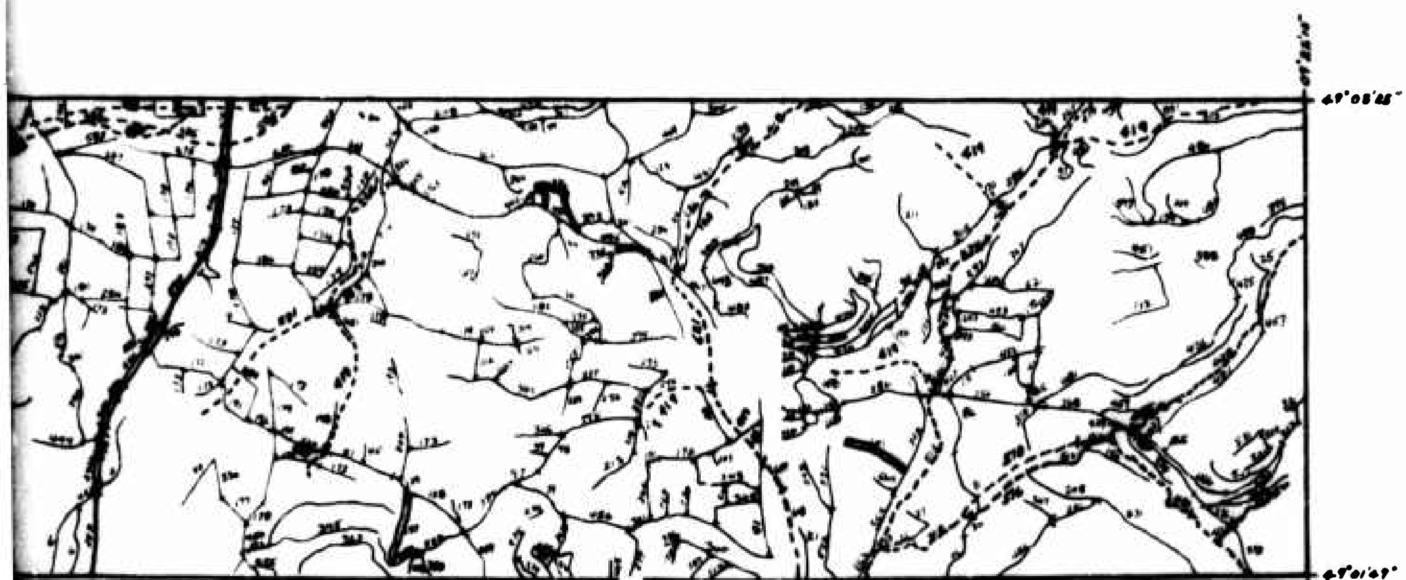
ROAD CUT

DRAINAGE FEATURE



B

C



LINEAR TERRAIN FACTOR
COMPLEX MAP
WEST GERMANY (EAST END)
MOBILITY TRANSECT

PLATE A8

APPENDIX B: COMPARISON OF SELECTED FORT KNOX AND WEST GERMAN TERRAINS

Introduction

1. This appendix presents comparisons of the terrains in the three study areas (FK1, FK2, and WGT) on the basis of the general descriptions of the areas, the areal occupancy and occurrence of terrain units and terrain factors, and on the basis of performance of two vehicles (one each wheeled and tracked) as predicted by the AMC-71 mobility model.

General Descriptions

2. The area mapped as WGT is nearly six times as large as the combined areas of FK1 and FK2. WGT and FK2 are located on plateaus; FK1 is located in a floodplain. The elevation is greater in WGT than in FK1 or FK2. Both FK1 and WGT are crossed by a large river and contain some small streams; FK2 has no large river but has numerous small streams. Drainage is excellent in WGT and FK2 throughout the year, while during much of the year drainage is poor in FK1.

3. Soils in FK1 are largely alluvial silty clays, in FK2 are usually residual silty clays, and in WGT are mostly residual silts and clays although some alluvial soils are found along the rivers and streams.

4. Climate is generally similar in the three areas, although the mean temperature and rainfall is slightly higher in FK1 and FK2 than in WGT.

5. The most important difference in the areas is the land use. Approximately 70 percent of the land in WGT is used for agricultural purposes, with grain as the principal crop. FK1 and FK2 are portions of a military reservation primarily used for training purposes; more than 80 percent of FK1 and 50 percent of FK2 are covered by deciduous or evergreen woodlands. WGT contains many towns and villages and a dense road network, whereas FK1 and FK2 contain no town or villages and only a few improved roads.

112<

6. From this general comparison the terrain in WGT as a whole would appear significantly different from that in FK1 and FK2. However, when one considers specific areas in terms of landform, soils, climate, and land use, highly analogous areas can be found.

Terrain Units

Areal terrains

7. Because of the differences in areal extent of the study areas, the terrain units and occurrences are expressed in terms of number per square mile for comparative purposes. These values are shown in the following tabulation.

Study Area	Area sq mi	Terrain Units Total No.	Terrain Units Number per sq mi	Occurrences (Patches) Total No.	Occurrences (Patches) Number per sq mi
FK1	6.2	192	31	323	52
FK2	4.7	193	41	224	48
WGT	60.2	1408	23	5117	85

The tabulation shows a smaller number of terrain units per square mile in WGT, which may be a result of the lack of ground truth data. It also shows a larger number of patches or occurrences per square mile in WGT, which reflects the differences in land use of the areas.

8. A complete list of the area occupied by each terrain unit, the number of occurrences of each terrain unit, the mean area per occurrence, the percent area, and the percent occurrence of each terrain unit is given in tables B1-B3, inclusive. In these tables the terrain units are arranged in descending order according to size of total area assigned.

9. The percentage distribution of the areal terrain units is shown graphically in fig. B1a. It may be seen in this figure that 90 percent of the area in WGT was described by less than 20 percent of the terrain units, while in FK1 90 percent of the area required more than 52 percent of the terrain units, and in FK2 90 percent of the area required more than 60 percent of the terrain units.

10. The frequency of occurrence is shown in fig. B1b, where it may be seen that about 65 percent of the occurrences describe 90 percent of

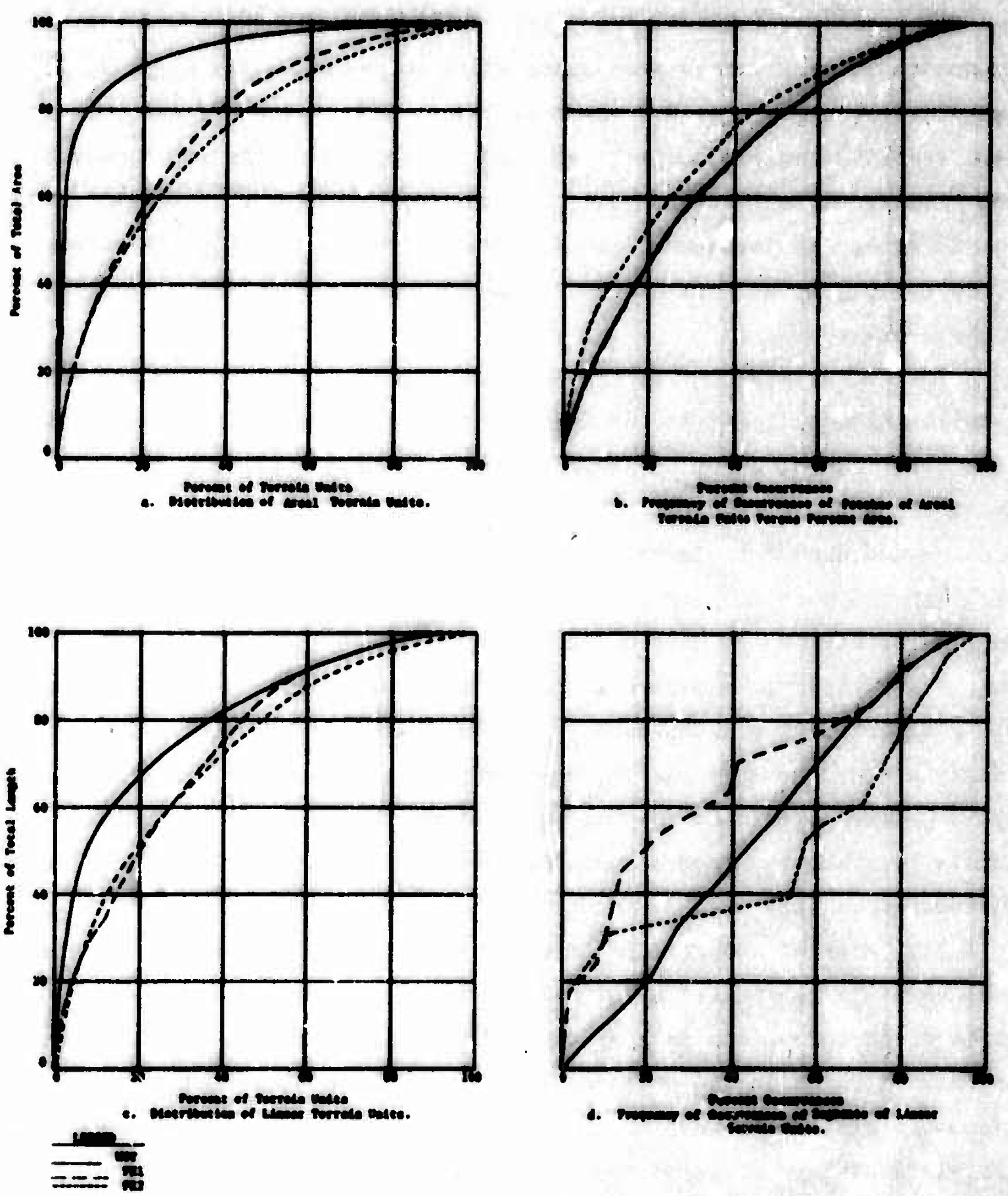


Fig. B1. Distribution and frequency of occurrence of areal and linear terrain units

114

of all three areas.

11. Although the frequency of occurrence of terrain units in relation to percent of total area appears similar for all three study areas, the number of occurrences per square mile, as shown in paragraph 7, is significantly higher for WGT than for FK1 or FK2. Note, however, that there are 1408 terrain units in WGT and 193 in FK2. This would suggest much greater variability in WGT. However, the largest 200 terrain units contain almost 90 percent of the WGT area. Thus, while greater variability exists, it affects little of the area and may not be significant in the mobility sense.

12. An examination of the descriptions of the terrain units given in tables A10, A11, and A14 of Appendix A reveals that while many terrain units are, indeed, quite similar and can be expected to have the same, or almost the same, effect on vehicle performance, there exists some difference between each terrain unit described in the three areas. Thus, no areal terrain unit is common to all three study areas. Terrain units usually reflect the land use. The terrain factors used to describe obstacles, vegetation, ride dynamics, visibility, and surface roughness are highly dependent upon land use. The surface strength factor may be frequently altered by land use or, when not directly affected by land use, may be generally related to a specific land use. The two remaining factors (surface type and slope), which describe a terrain unit, are seldom dependent upon land use.

13. Most of the terrain units in WGT occur in forests or croplands. Although no terrain unit in WGT was described with exactly the same combination of factor values as a specific terrain unit in FK1 or FK2, most of the terrain units in the forested areas in WGT can be associated with reasonably similar terrain units in the forested areas of FK1 and/or FK2 that yield a range of predicted speeds for the M114A1E1 that are similar to the predicted speeds of the M114A1E1 in selected vegetated terrain units in WGT.

Area	Terrain Unit	M114A1E1 Speed, mph	Limiting Factor
WGT	24	14.9	Vegetation - Soil Slope
FK1	45	15.1	Vegetation - Soil Slope
FK2	167	14.9	Vegetation - Soil Slope
WGT	98	11.7	Vegetation - Soil Slope
FK1	102	12.5	Vegetation - Soil Slope
FK2	87	11.7	Vegetation - Soil Slope
WGT	148	9.2	Vegetation - Soil Slope
FK1	138	9.2	Vegetation - Soil Slope
FK2	148	9.2	Vegetation - Soil Slope
WGT	185	5.1	Vegetation - Soil Slope
FK1	147	7.3	Vegetation - Soil Slope
FK2	141	5.3	Vegetation - Soil Slope

It should be pointed out that while soil, slope, and vegetation contributed to limiting vehicle speed in each of the above examples, the degree to which any single factor affected speed in a terrain unit may have varied. Vehicles can perform similarly in two vegetated areas with the same stem diameter-spacing values and different combinations of soil strength and slope. The vegetation stem size-spacing can also vary slightly with offsetting effects of soil and slope and yield the same vehicle performance. In addition, it should be pointed out that a change in soil strength class, slope class, or vegetation class may have no significant affect on a particular vehicle's performance. Therefore, while the above examples do not offer conclusive proof that the areas are similar, the areas are considered similar from the mobility point of view. Although there is at present no cultivation in FK1 and FK2 that would yield terrain units similar to those found in WGT, there are some areas that could easily be plowed in rows and would then be similar.

Linear terrains

14. Because of the differences in extent of linear terrain in the study areas, the linear terrain units and occurrences are expressed in terms of number per mile for comparative purposes. These values are shown in the following tabulation.

Study Area	Length mi	Terrain Units Total No.	Terrain Units Number per mi	Occurrences Total No.	Occurrences Number per mi
FK1	29.9	17	0.6	51	1.7
FK2	25.7	26	1.0	75	2.9
WGT	421.6	641	1.5	1477	3.5

The greatest number of terrain units per mile and occurrences per mile for WGT reflect the dense road network in WGT and the scarcity of roads in FK1 and FK2. It is pointed out that road embankments or road cuts are described as linear features since they are obstacles to vehicles crossing them. Only 20 percent of the total length of the linear terrain features in WGT represented drainage features, while 61 percent of FK1 and about 70 percent of FK2 were drainage features.

15. A complete list of the length of each terrain unit, the number of occurrences of each terrain unit, the mean length per occurrence, the percent length and the percent occurrence of each terrain unit is given in tables B4-B6.

16. The linear distribution of terrain units is shown graphically in fig. B1c. In this figure it may be seen that 60 percent of the length of linear features in WGT was described by less than 10 percent of the terrain units, while in FK1 and FK2, 60 percent of the length of linear terrain features required about 26 percent of the terrain units for description. The smaller number of terrain units used to describe 60 percent of WGT results from the fact that such a large percentage of the linear features in WGT are associated with a well-developed road network. Roads are inherently more uniform than drainage features.

17. The frequency of occurrences is shown in fig. B1d where it may be seen that there is a wide difference in the percent of occurrences required to describe almost any given percent of the total length.

18. Examination of the linear terrain unit descriptions given in tables A12, A13, and A15 of Appendix A reveals that while a degree of similarity exists between some of the linear terrain units in the three areas, there is no linear terrain unit that is common to all three areas.

19. In general, the examination of the three study areas on the basis of linear occupancy and frequency of occurrence of terrain units

indicates significant differences between Fort Knox and West German terrains.

Terrain Factors

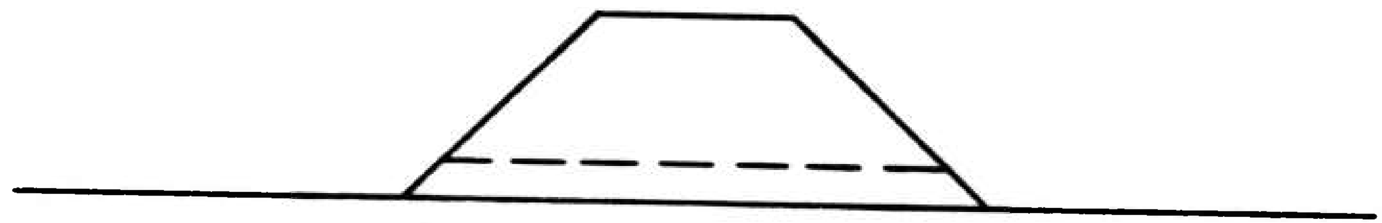
20. In describing terrain units, a particular group of terrain factors is used to describe areal terrains and a somewhat different group is used to describe linear terrains (see tables A8 and A9).

Areal terrains

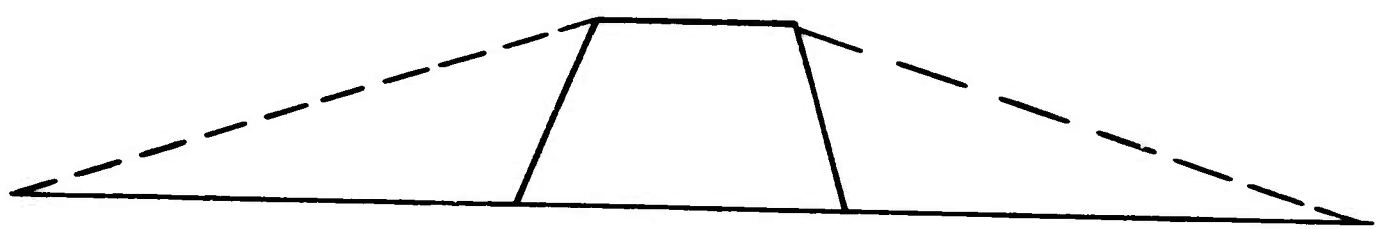
21. Some factors such as soil, slope, surface roughness, and visibility have a more or less independent effect on vehicle performance. Other factors such as those used to describe obstacles and vegetation must be coupled together to have an effect on vehicle performances. For example, the approach angle of two obstacles may be the same and yet the obstacles may have a widely different effect on vehicle performance due to the differences in other dimensions, spacing, etc. Fig. B2 illustrates geometric differences which occur when only the angle of approach and obstacle height vary. However, for the purposes of this study, comparisons were made of each terrain factor, where possible.

22. The data shown in tables B7, B8, and B9 were examined from the standpoint of both frequency of occurrence and areal occupancy. Results of this examination revealed that little difference existed between percent total area and percent occurrence of a given factor class. This is illustrated for the relatively independent terrain factors (soil strength, slope, surface roughness, and visibility) in fig. B3. Therefore, the terrain factors are discussed on the basis of areal occupancy of each factor class, and frequency of occurrence is eliminated from further discussion. However, due consideration was given to whether an individual factor class occurring in WGT also occurred in FK1 or FK2, and to the range of factor classes in each of the three areas. For convenience, the more closely related terrain factors are grouped together for discussion.

23. Soils. Soils are described by the WES descriptive system with two terrain factors--soil type and soil strength. Soil type is described by three classes:



a. Height varies; approach angle constant.



b. Approach angle varies; height constant.

Fig. B2. Example of variation of obstacles

119<

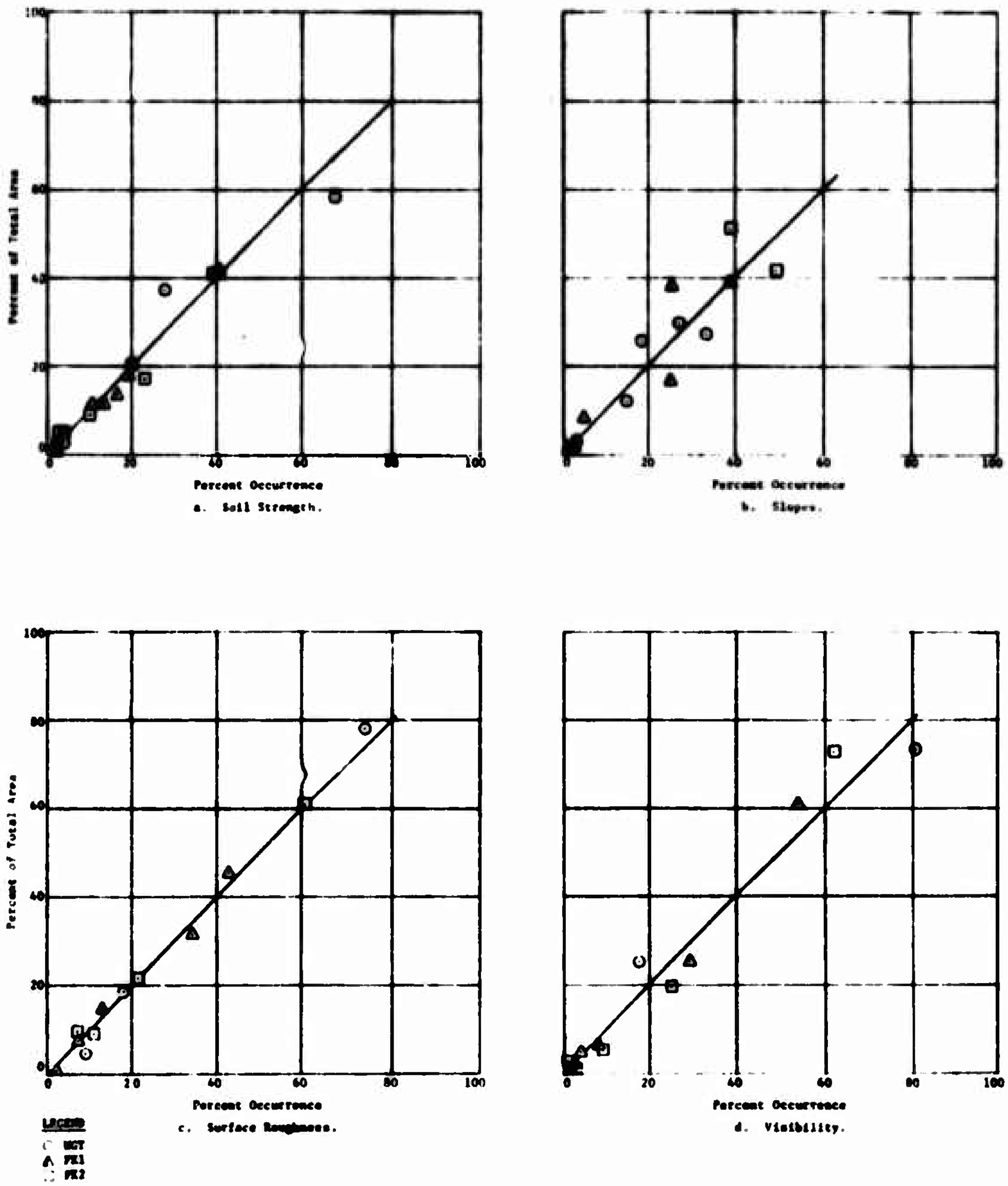


Fig. B3. Frequency of occurrence versus areal occupancy of factor classes of the independent terrain factors

a. Class 1 - fine-grained soils.

b. Class 2 - coarse-grained soils.

c. Class 3 - organic soils.

In all three areas, the soil type was determined to be class 1 for all areal terrain units. Soil strength in areal terrains was described by 11 classes of rating cone index (RCI) ranging from 0 to 280. The M114A1E1 requires a minimum soil strength of 12 RCI in order to just operate; the M151A2 requires a soil strength of 19 RCI. Higher soil strengths are necessary to permit the vehicles to climb slopes, override trees and obstacles, and to gain speed.

24. Soil strength. Soil strength is normally determined for dry, average, and wet conditions, because differences in soil moisture influence soil strength. However, for this study, comparisons were made only for the wet season condition, which is generally the most unfavorable from the standpoint of vehicle performance.

25. Fig. B4 shows the areal distribution of the soil strength factor classes during the wet season for the three areas considered. In general, the soil strength in WGT was predominantly class 4 (101 to 160 RCI) and class 6 (41 to 60 RCI). The distribution of soil strength in FK1 was skewed bell-shaped with the greatest occurrence being in class 6. In FK2, soil strength ranged from class 2 to class 8 (i.e. from 208 to 26 RCI) with an erratic distribution. Generally, the soils were strongest in WGT and weakest in FK1. This figure also shows that 75 percent of the soil strengths found in WGT also occur in FK1 and that all (100 percent) of the soil strengths in WGT occur in FK2.

26. Slope. Slope was described by a single terrain factor--topographic slope in percent. It is expressed by eight classes ranging from 0 to 70 percent. Most off-road vehicles can successfully negotiate a 60 percent slope on firm soil, have difficulty on slopes between 60 and 70 percent, and cannot operate on slopes of 70 percent or greater. The areal distribution of the slope classes in the three areas is shown in fig. B5. The largest percentage of shallow slopes is found in FK1 and the steepest slopes are found in WGT. The areal distribution of slopes in WGT is nearly bell shaped and in FK1 and FK2 is somewhat skewed, with FK1

skewed to the left and FK2 skewed to the right. Note that while only 86 percent of the slope classes occurring in WGT may be found in the combined terrains FK1 and FK2, the single slope class that does not occur in either FK1 or FK2 represents only 0.2 percent of the area in WGT.

27. Surface roughness. Surface roughness was described by a single terrain factor in terms of root mean square (rms) elevation in inches. RMS is expressed in nine classes ranging from 0 to 7.6 rms. This factor does not cause immobilizations, but serves only to limit vehicle speed. A value of 0.2 rms (midpoint of class 1) has little effect on speed of the M114A1E1 and the M151A2. A value of 4.0 rms (midpoint of class 5) will severely limit speed of both vehicles. The areal distribution of the surface roughness factor classes is shown in fig. B6. Areas FK1 and FK2 show somewhat normal distributions whereas 77 percent of the surface roughness index in WGT occurs in class 2 (0.5 to 1.5 rms). This figure also shows that all of the surface roughness factor classes found in WGT occur in FK1 and FK2.

28. Visibility. Visibility is described by a single terrain factor--recognition distance in feet. It is expressed in nine classes ranging from 0 to >164 ft. The AMC-71 mobility model relates the recog nition distance to the distance required to stop a vehicle. Therefore, this factor does not cause immobilizations, but serves only to limit speed. Visibility of more than 79 ft (bottom of class 2) has no effect on speed of the M114A1E1; visibility of more than 164 ft (class 1) has no effect on speed of the M151A2. The areal distribution of the visibility factor classes is shown in fig. B7. This figure shows that the largest percentage of area occupancy for all three areas occurred in class 2, indicating that, in general, visibility was good in all three areas. The small percentages in the higher classes reflect the unmanaged forests at FK1 and FK2. Note that all of the visibility factor classes occurring in WGT also occur in FK1 or FK2.

29. Obstacles. Obstacles are generally related to the cultural practices, and the dispositional and erosional processes within an area. For instance, in WGT rows are associated with cropland; in FK1 small logs are found in the unmanaged woodlands; in FK2 the ditches result from

123<

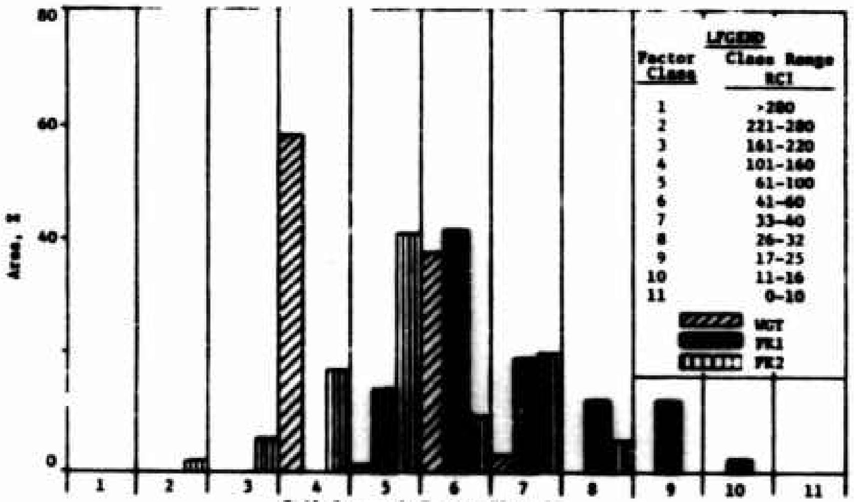


Fig. B4. Distribution of soil strength of areal terrains

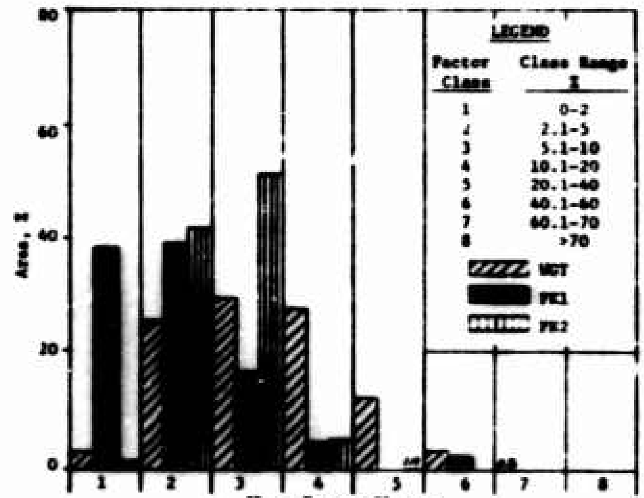


Fig. B5. Distribution of slopes

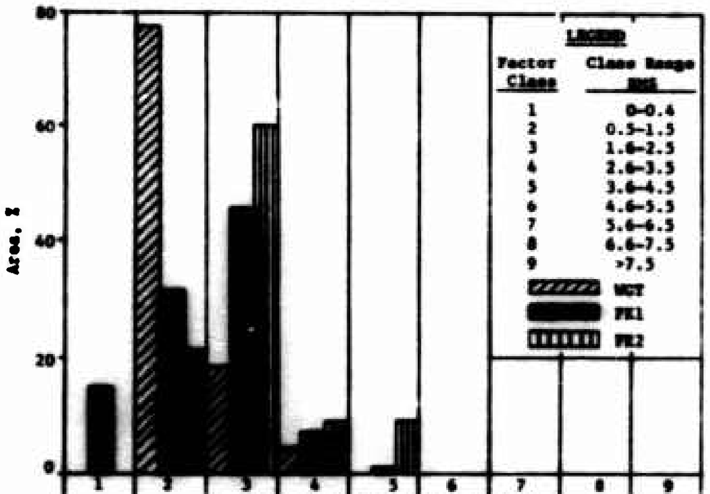


Fig. B6. Distribution of surface roughness

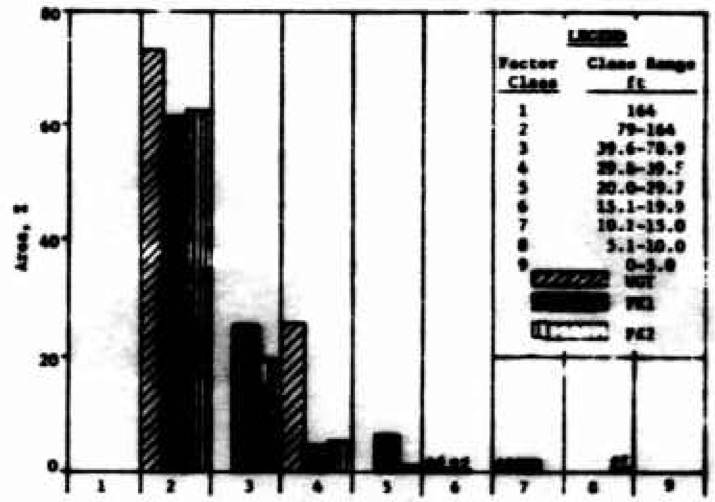


Fig. B7. Distribution of visibility

previous military activities and uncontrolled erosion. Six terrain factors are used to describe obstacles (see table A8). The areal distribution of these factors is shown in figs. B8-B12 with the caveat of paragraph 21 repeated.

a. Approach angle. Fourteen classes are used to describe approach angle with the odd-numbered classes describing convex obstacles and the even-numbered classes describing concave obstacles. The areal distribution of obstacle approach angles (fig. B8) shows that 40 percent of FK1, 17 percent of FK2, and 41 percent of WGT have approach angles in classes 1-8 (150 to 202 deg), inclusive. Approach angles this small are considered to have little effect on mobility of current military vehicles. The approach angles in class 9 in WGT reflect the prevalence of row crops (determined by comparing other terrain factors such as obstacle spacing, obstacle width, and obstacle length), which do not occur in FK1 or FK2. Although this class of obstacle approach angles represents a large part of terrain in WGT, its absence in FK1 or FK2 is not as critical as the figures might appear to indicate for several reasons. First, rows, per se, will normally have little effect on the speed of a t ked vehicle, and small effect on the speed of wheeled vehicles with well-designed suspension systems. SEcond, rows are a man-made feature and can be duplicated in selected parts of FK1 with very little effort. There are no obvious patterns to the distribution of approach angles.

b. Vertical magnitude. The areal distribution of the vertical magnitude (fig. B9) occurs largely in the first three classes ($<$14 in.). In all areas obstacles of this magnitude can usually be negotiated by most off-road vehicles, but may cause some reduction in speed. Distinguishable patterns are not apparent for the areal occupancy of vertical magnitudes. The figure shows that all of the obstacle vertical magnitudes found in WGT occur in both FK1 and FK2.

c. Base width. The areal distribution of base width is shown graphically in fig. B10. There appears to be no pattern to the areal distribution of base width. The obstacles in over half of the area of WGT have base width in class 4 (12 to 25 in.), with significant occurrences in classes 1 ($>$47 in.) and 5 (0 to 12 in.). In FK1 and FK2 classes 1 and 5 predominate. Note that all of the base widths that occur in WGT also occur in FK1 and FK2.

d. Length. The distribution of obstacle length in terms of areal occupancy is shown in fig. B11, which shows no obvious distribution pattern. In WGT, 42 percent of the area occurs in class 6 (20 to 49 ft) with somewhat lesser

125

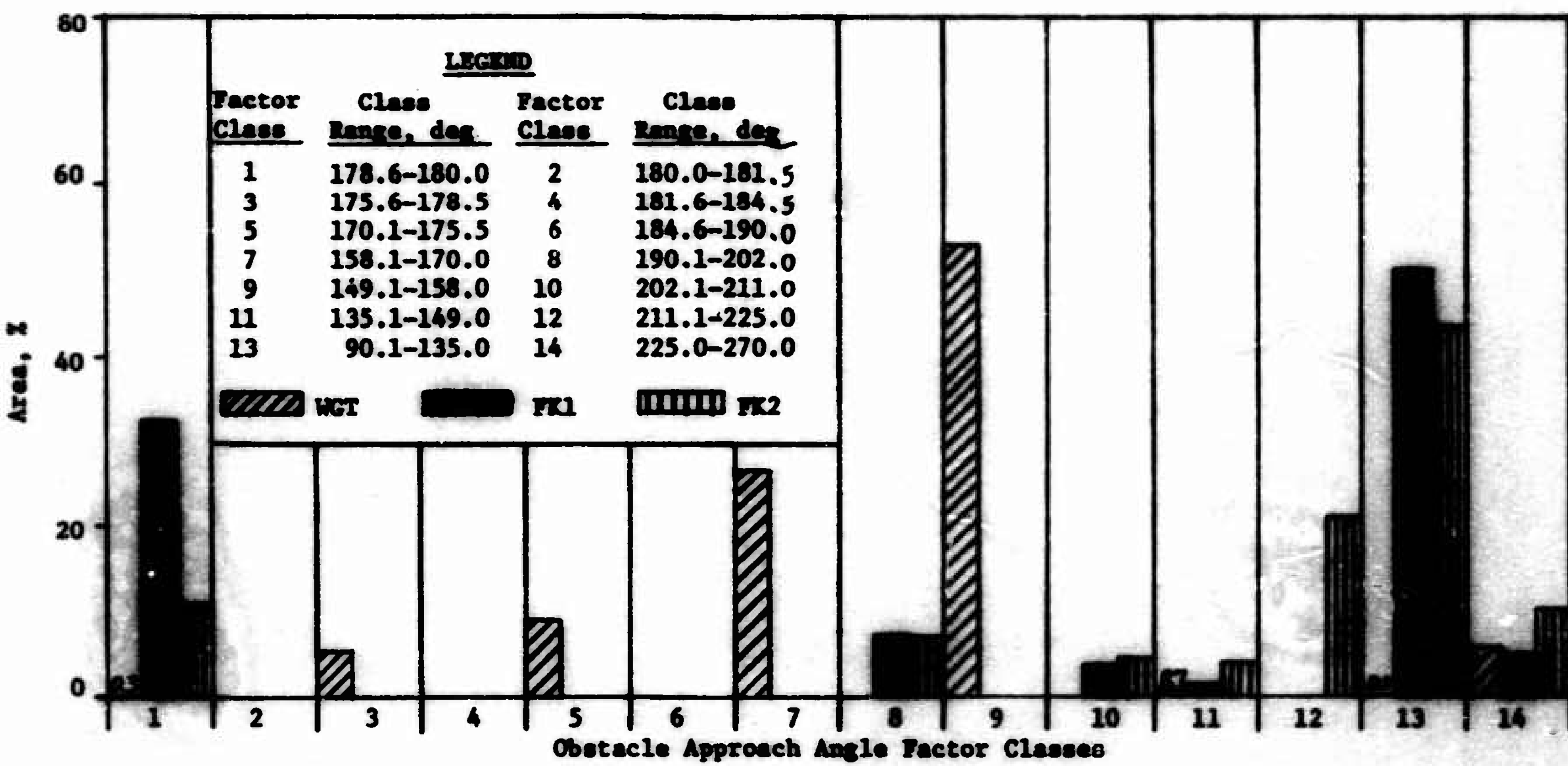


Fig. B8. Distribution of obstacle approach angles

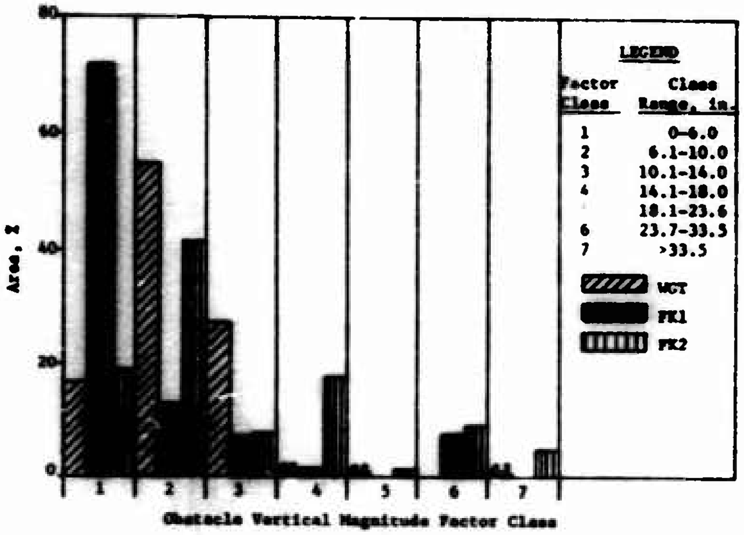


Fig. B9. Distribution of obstacle vertical magnitudes

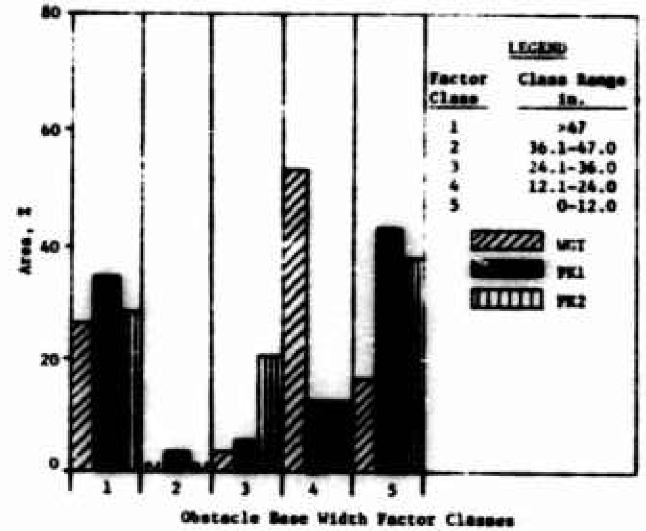


Fig. B10. Distribution of obstacle base widths

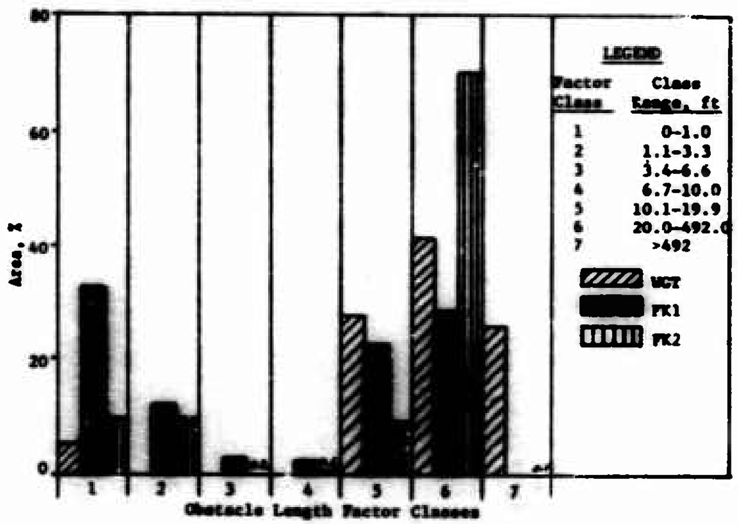


Fig. B11. Distribution of obstacle lengths

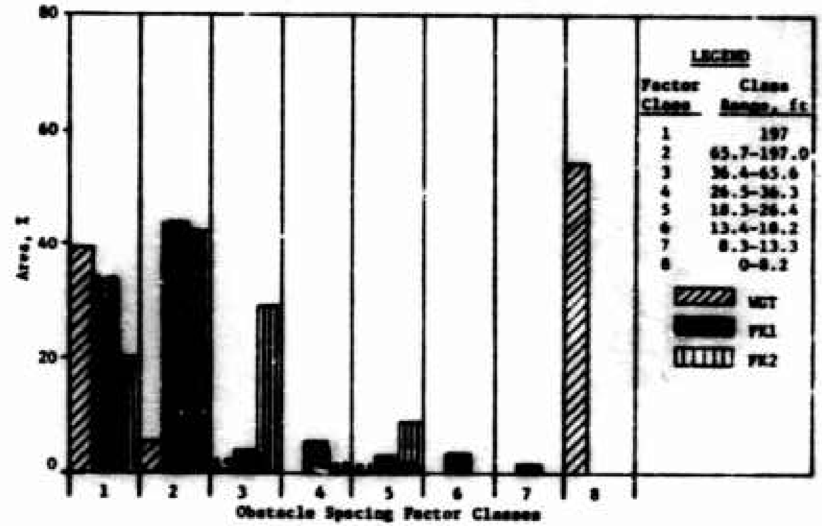


Fig. B12. Distribution of obstacle spacings

126<

distribution in classes 5 (10 to 20 ft) and 7 (>492 ft). FK1 has similar amounts of obstacle lengths in classes 1 (<1 ft), 5, and 6; whereas in FK2, 70 percent of the lengths are found in class 6. All obstacle length factor classes occurring in WGT can be found in the combined terrains of FK1 and FK2.

e. Spacing. Fig. B12 shows the distribution of obstacle spacing. No distribution pattern is apparent for WGT and FK1; FK2 resembles a skewed bell-shaped pattern, with 71 percent in classes 2 (66 to 197 ft) and 3 (36 to 66 ft). In WGT, 94 percent is in classes 1 (>197 ft) and 8 (0 to 8.2 ft). In FK1, more than 80 percent of the area is in classes 1 and 2. Eighty percent of the obstacle spacing classes occurring in WGT are also found in FK1 and FK2. The range of obstacle spacing in WGT is from 0 to >197 ft; the combined range of obstacle spacing in FK1 and FK2 is 8.3 to >197 ft. Obstacle spacing class 8 (0 to 8.2 ft), which does not occur in either FK1 or FK2, results from the cultivated croplands in WGT. Although this obstacle spacing class does occur in a significant percentage of the total area in WGT, its absence in FK1 and FK2 is not critical as these conditions can easily be duplicated as stated in paragraph B13.

f. Obstacle spacing type. The areal distribution of random and linear obstacles is given in table B8. One-hundred percent of FK1, 93 percent of FK2, and 75 percent of WGT were mapped as random obstacles. Study of the air photos of WGT indicate that a much larger percentage of WGT should have been mapped as containing linear obstacles since it is felt that the obstacles in most cropland are linear.

30. In summary, WGT consists largely of cropland and forests. Intensified management practices employed in these areas result in a decrease in the occurrences of mobility significant obstacles. The obstacles commonly found in WGT are rows produced in preparing cropland, stumps and logs in forest lands, and rock outcrops on sloping, shallow soil areas. Intensive erosion control minimizes land dissection by erosion. Areas FK1 and FK2 are portions of a military reservation where the land is used essentially for training military units. No effort is devoted to management practices of these lands as yet, but conservation programs are being formulated. Logs, deadfall, and ditches are the predominant obstacles. The major differences between the obstacles in the study area is, of course, the presence of rows in WGT and the lack thereof in FK1 and FK2.

This does not constitute a formidable difference, however, since the rows in WGT may be duplicated in FK1 with little effort.

31. Vegetation. Vegetation assemblages are described by eight classes of spacing and eight stem diameter classes. Vehicle response is dependent upon characteristics of the stem size/spacing distribution which these detail. Fig. B13 shows the spacing distribution of all stems. For WGT, nonwoody vegetation (i.e. grass, crops, etc.) was arbitrarily included; thus, when all stems are considered, virtually 100 percent of the area in WGT is in class 8. For FK1 and FK2 nonwoody vegetation was not mapped; thus, a better comparison is shown in fig. B14, which eliminates consideration of nonwoody vegetation in all areas. Although the figure indicates denser vegetation in FK2 than in FK1 or WGT, little can be inferred from stem spacing without a consideration of stem size; accordingly, to compare the vegetation in the three areas, vegetation was described as follows:

a. Open land. Areas with no vegetation or with stem spacing greater than 65 ft. (No effect on mobility.)

b. Light woods. Areas with stems less than 3.9 in. in diameter regardless of spacing, and areas with stems greater than 3.9 in. in diameter which have spacings between 18.3 and 65 ft. (Some effect on mobility.)

c. Heavy woods. Areas with stems greater than 3.9 in. in diameter and spacings less than 18.3 ft. (Great effect on mobility.)

32. The areal distribution of these groups is shown in fig. B15. Again, it is apparent that WGT has considerably more open land than FK1 and somewhat more open land than FK2. FK1 contains the highest percentage of light and heavy woods. The percent of area containing light and heavy woods is less for WGT than for either FK1 or FK2. Nevertheless, it is obvious that all three areas contain significant amounts of each of the three vegetation groups.

33. The distributions of the spacing of the light woods and heavy woods are shown in figs. B16 and B17. Note that the spacing of the light woods in WGT is predominantly in class 3 (36 to 66 ft), and in FK1 and FK2 is predominantly in class 7 (8.3 to 13.3 ft). This reflects the orchards in WGT and the young, denser tree growth in FK1 and FK2. Five of the six

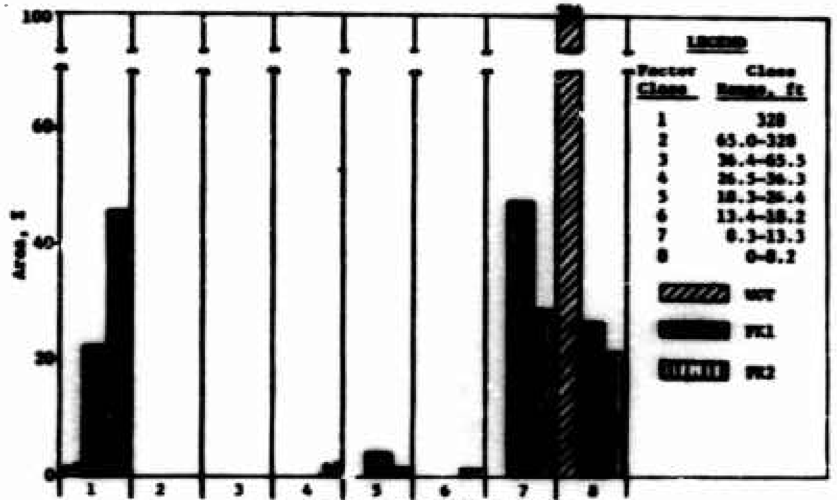


Fig. B13. Spacing Distribution of all stems

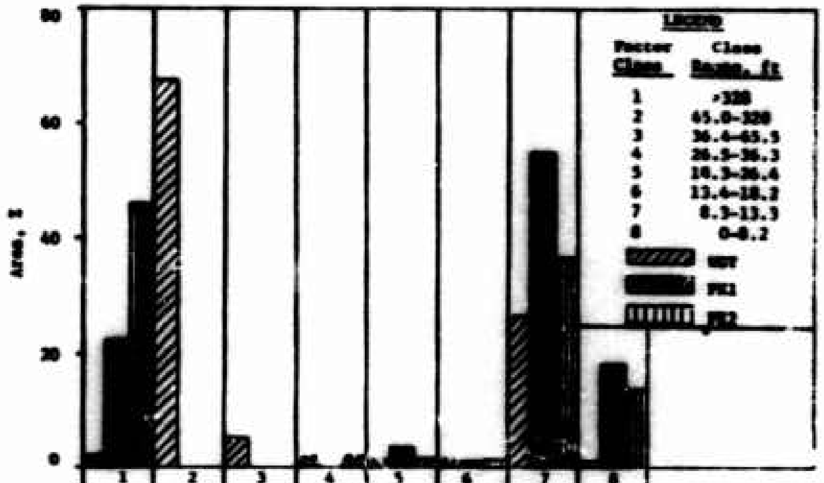


Fig. B14. Spacing distribution of all stems >1-in. stem diameter

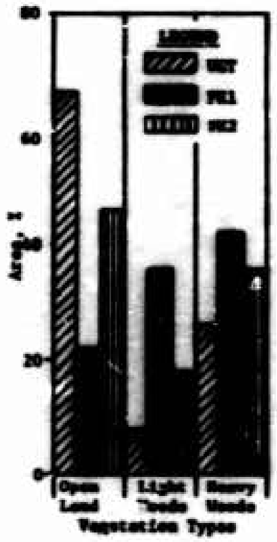


Fig. B15. Distribution of vegetation groups

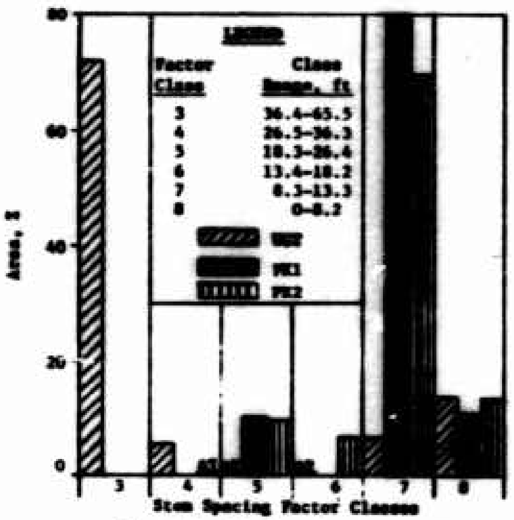


Fig. B16. Spacing distribution for light woods

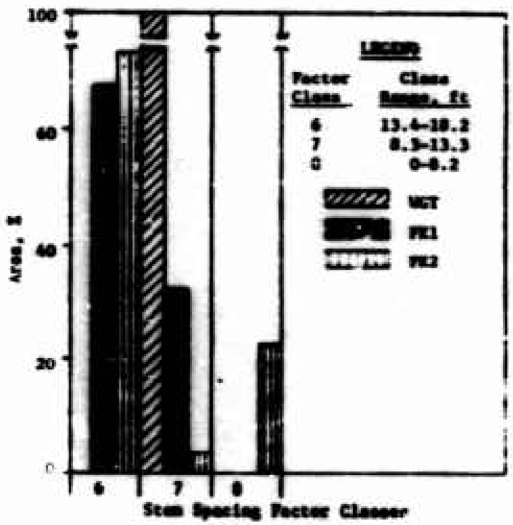


Fig. B17. Spacing distribution for heavy woods

spacing classes of light woods which occur in WGT can be found in FK1 and FK2; the one spacing class of light woods in WGT which does not occur in either FK1 or FK2 represents relatively widely spaced (36 to 66 ft) stems which would have little mobility significance. The spacing of the heavy woods in WGT is in class 7, and in FK1 and FK2 is largely in class 6 (13.4 to 18.2 ft); however, all of the spacing classes of heavy woods that occur in WGT can be found in both FK1 and FK2. This is a result of the tree management programs and harvesting practices in the respective areas. On the basis of stem spacing, the areal extent of wooded areas in WGT is different from that in FK1 and FK2; nevertheless, all significant stem spacings occurring in WGT can be found in FK1 or FK2.

Linear terrains

34. The linear terrain unit data shown in table B10 were examined from the standpoint of both linear occupancy and frequency of occurrence. Results of this examination generally indicated little difference between linear occupancy and frequency of occurrence. Therefore, the distributions of the terrain factor classes were compared on the basis of linear occupancy only.

35. Most of the linear terrain features in FK1 and FK2 were described as surface type class 1 (fine-grained material). All of the linear terrain features in WGT were described as surface type class 2 (coarse-grained material).

36. The distribution of the other eight terrain factors is discussed in the following paragraphs.

a. Soil strength. Fig. B18 shows that *all* of the linear terrain features in WGT were mapped with a soil surface strength class 1 (>280 CI). More than 60 percent of the linear terrain features in FK1 and FK2 were mapped in soil strength classes 4-10 (11 to 160 RCI), indicating that more soil problems would be encountered in the Fort Knox study areas. There is no apparent distribution pattern to the data as shown in fig. B18. A significant portion of the linear features in FK1 and FK2 have soil strengths similar to those of linear features in WGT.

b. Left and right approach angles. In figs. B19 and B20, the odd-numbered classes (except 21) indicate convex features such as road embankments, levees, dikes, etc.; the even-numbered classes indicate concave features such as streams

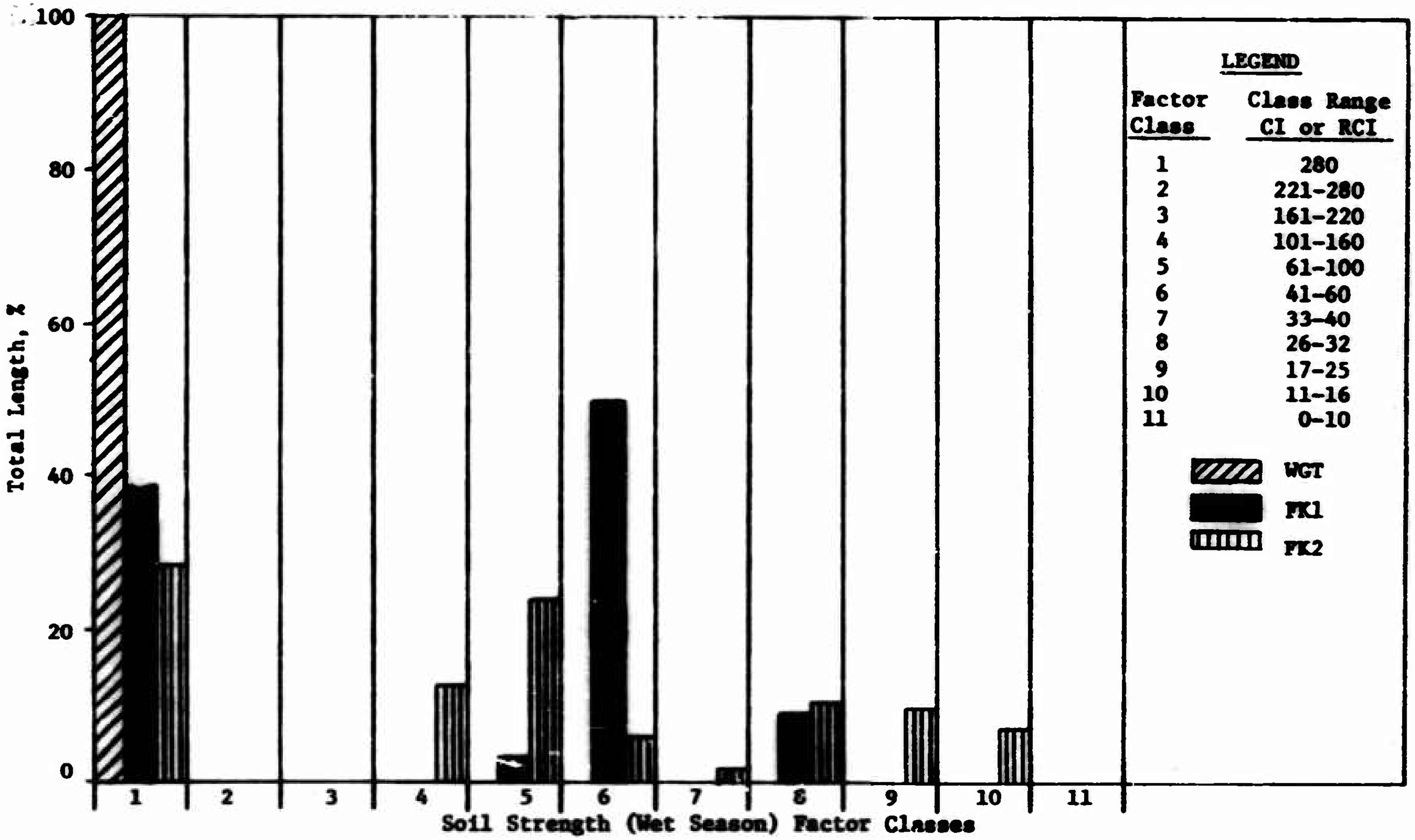


Fig. B18. Distribution of soil strengths for all linear features

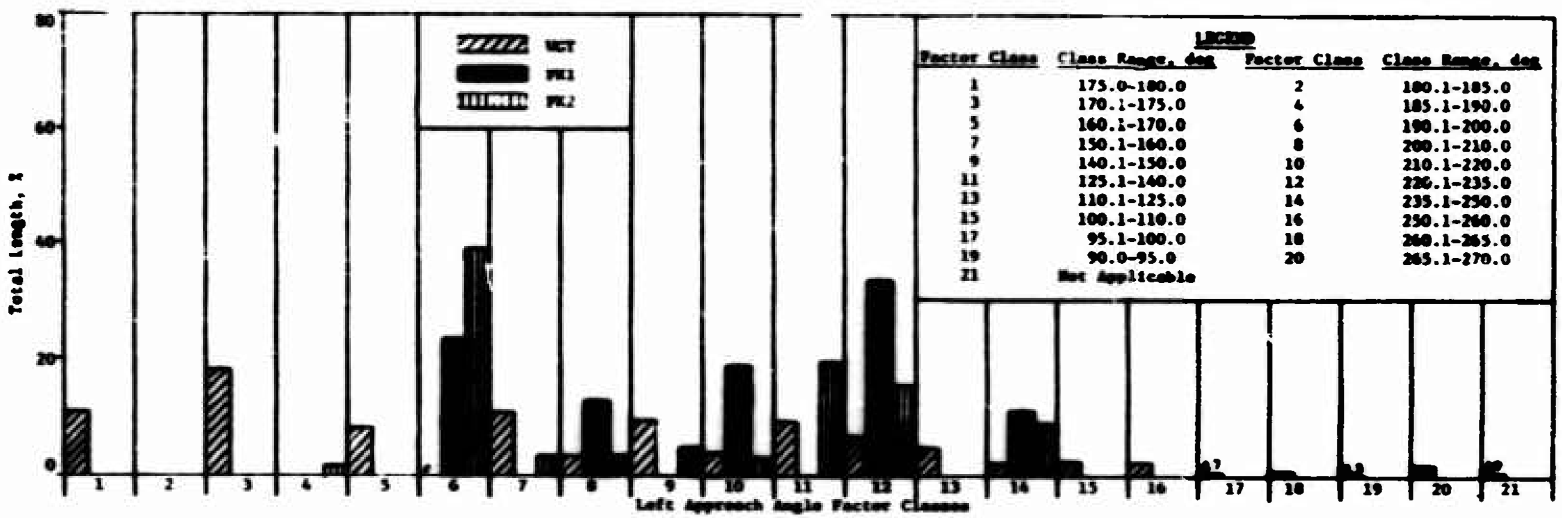


Fig. B19. Distribution of left approach angles for all linear features

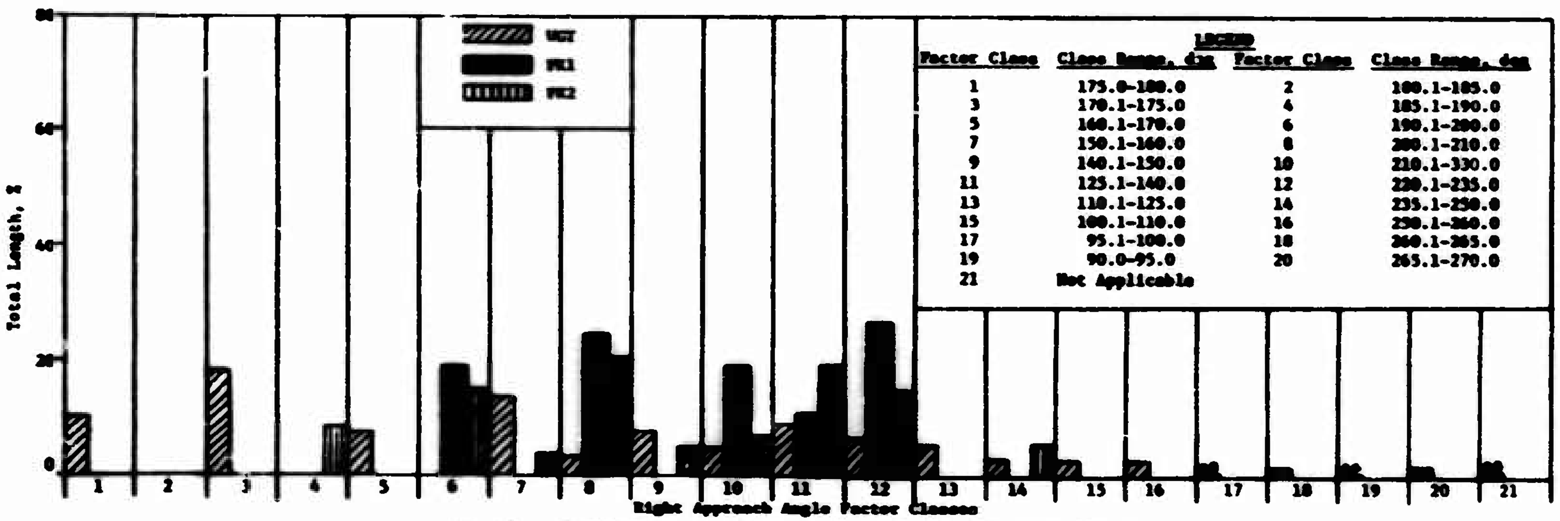


Fig. B20. Distribution of right approach angles for all linear features

ditches, road cuts, etc. In WGT, odd-numbered linear terrain factor classes predominate, because of the highly developed road net that represents more than 75 percent of the total length of the linear terrain features. The lack of positive features in FK1 and FK2 is apparent, indicating the lack of improved roads in these areas. The even class numbers in FK1 and FK2 reflect the concave linear features which are drainage features; no road cuts occurred in FK1 or FK2. The steeper approach angles in the concave features in WGT represent both road cuts and drainage features. The Neckar River in WGT creates a more severe mobility problem than the Salt River in FK1 because of the steeper approach angles. Although the areal distribution of the approach angles indicate considerable differences, it should be noted that the steeper angles (90 to 110 deg and 250 to 270 deg) that occur in WGT but not in FK1 or FK2 represent less than 10 percent of WGT, and that lower approach angles (160 to 180 deg) that occur in WGT but not in FK1 or FK2 represent roads. It would seem likely that if the perimeter road around FK2 were included in the linear terrain features, some of these approach angles would occur. Seven of the remaining eight classes of approach angles which occur in WGT also occur in the Fort Knox terrains, the only one not occurring being class 13, i.e. a positive feature which might well occur if the aforementioned perimeter road were included.

c. <u>Differential bank height or vertical magnitude</u>. In fig. B21 class 1 (banks of equal height) indicates that left and right bank heights are equal. Classes 2-5 (0 to >13.1 ft) indicate a higher left bank, and classes 6-9 (0 to >13.1 ft) indicate a higher right bank (see table A9). Although the data on this figure indicate that the left bank is frequently higher than the right bank in FK1 and FK2, it is believed that this is a result of the size of the sample area. Although classes 5 and 8 do not occur in FK1 or FK2, these bank heights do occur on the opposite bank, hence all bank heights in WGT occur in FK1 or FK2.

d. <u>Low bank height or least vertical magnitude</u>. Fig. B22 shows that the low bank height or least vertical magnitude of the majority of the linear terrain features was generally small since 62 percent of the total length of the linear features in FK1, 83 percent in FK2, and 81 percent in WGT were less than class 3 (approximately 3.3 ft). In all areas, percentage of occurrence decreased as class number increased, except class 8 in FK1, which represents the Salt River. The three classes which occur in WGT and do not occur in FK1 or FK2 represent only 2.2 percent of the total length of linear features in WGT.

e. Base width or top width. Fig. B23 shows that the width of most of the linear terrain features was generally small. For instance, the width of 100 percent of the total length of the linear terrain features in FK1, 96 percent in FK2, and 67 percent in WGT was less than class 7 (approximately 40 ft). Generally, as the base width or top width of a feature increased, its occurrence decreases, as one would expect. The three classes of base width which occur in WGT and do not occur in FK1 or FK2 represent only 2.5 percent of the total length of linear features in WGT.

f. Water depth and water velocity. Figs. B24 and B25 show the distribution of water depth and water velocity for wet concave features (drainage features which may or may not contain water) only. Note that the predominant water depth in the wet concave features of all three areas falls in class 3 (>3.3 ft). The water depths in classes 5 and 6 (>6.7 ft) in the Neckar River in WGT and the Salt River in FK1, respectively, would require most vehicles to swim. No rivers that would require a vehicle to swim occurred in FK2. All of the water depth classes occurring in WGT are not duplicated in FK1 and FK2; however, the overall range of water depths occurring in WGT is encompassed by the range occurring in FK2. Moreover, since water depth varies considerably in most natural features, it is reasonable to expect that specific traverses may be selected in the Fort Knox terrains which will have all significant water depths. The distribution of the water velocity factor classes in FK1 is more similar to that in WGT than is the distribution in FK2. Again, this is probably because both FK1 and WGT contain large rivers. In WGT approximately 83 miles of the drainage features contained water and approximately 2 miles of the drainage features had no water. In FK1 approximately 14.6 miles had water and 1.8 miles had no water. In FK2 approximately 9.9 miles had water and approximately 3.3 miles were dry. All water velocity classes occurring in WGT are duplicated in FK1 and FK2.

General

37. Although it has been shown that significant differences exist between terrains in FK1 and FK2 and terrains in WGT, specific conditions can be found in which the terrains are generally similar, but their relative extent and occurrence differ. Nevertheless, most of the individual factor classes occurring in WGT can be found in the Fort Knox terrains.

155<

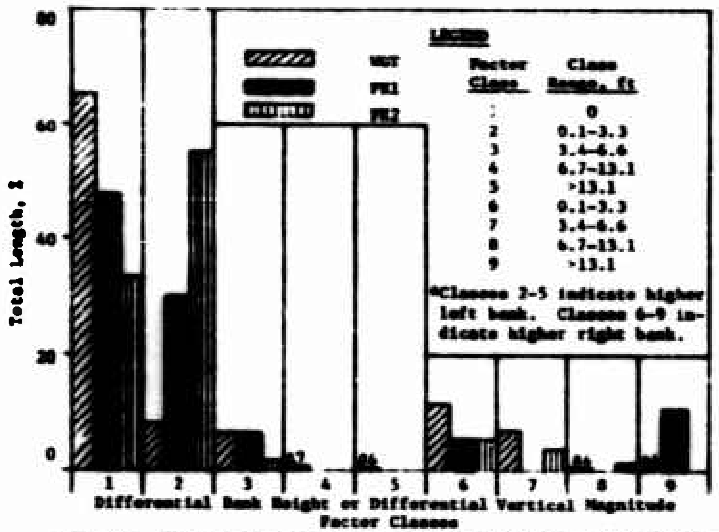


Fig. B21. Distribution of differential bank height or differential vertical magnitude of all linear features

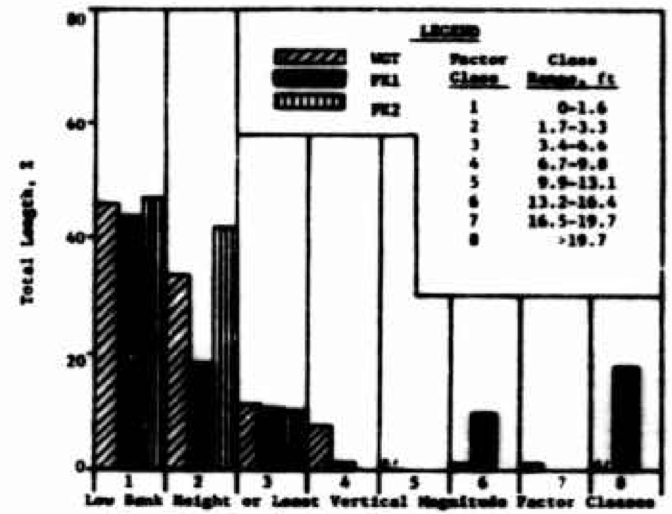


Fig. B22. Distribution of low bank height or least vertical magnitude of all linear features

Fig. B23. Distribution of base width or top width for all linear features

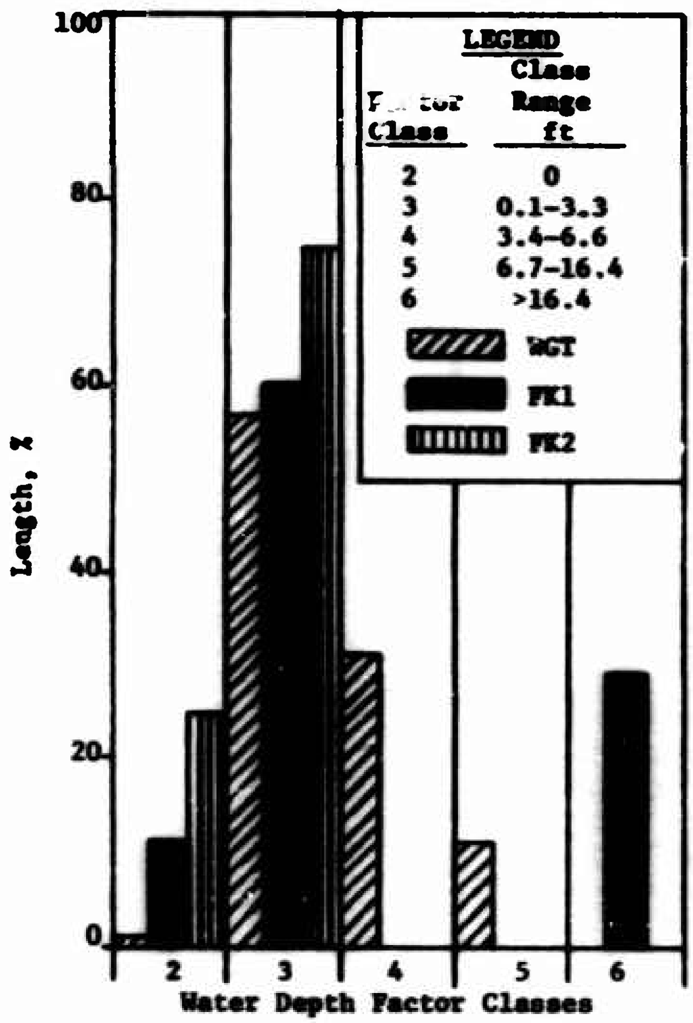


Fig. B24. Distribution of water depth of wet concave features

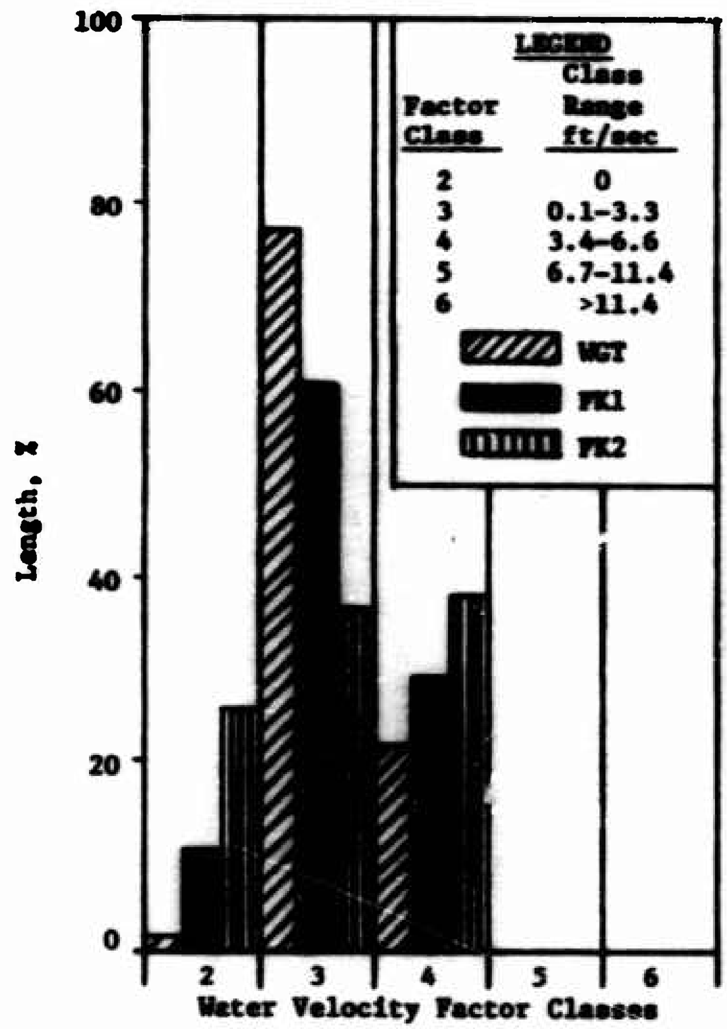


Fig. B25. Distribution of water velocity of wet concave features

Vehicle Performance

38. The three study areas were compared on the basis of the predicted performance of the M141A2 4x4, 1/4-ton truck and the M114A1E1 armored command and reconnaissance carrier. Photographs of these vehicles are given in figs. B26 and B27.

39. The performance predictions were made with the AMC-71 mobility model, which predicts performance in areal terrain units in terms of speed and identifies the factors causing immobilizations or limiting speed. It also predicts performance in linear terrain units in terms of "go-no go" and identifies the factors causing immobilization where applicable. Basic data required as input to the model are given in tables B11-B14.

Performance in Areal Terrains

40. An example of the primary output of the AMC-71 mobility model is given in table B15. In this table the terrain units (second column) are given in order of decreasing speed. As a secondary consideration, when two or more terrain units yield the same speed, the terrain units are given in order of decreasing size. The third column shows the total size of the terrain unit (i.e. combined area of all patches) in terms of percent of the total study area. The fourth column gives the cumulative area of the terrain units in order from the highest speed to the lowest speed. The fifth column indicates the speed predicted for each terrain unit. A speed of 0.1 mph was arbitrarily assigned to all of the no-go predictions to give some idea of the engineering effort that would be required to cross these areas. The sixth column indicates the average speed considering the indicated terrain unit and all terrain units yielding higher speeds. The seventh, eighth, and ninth columns list the controlling factors (see paragraph 47) when the vehicle is traveling upslope, on a level, and downslope, respectively. Similar data were determined for each vehicle in each of the study areas and provide the basis for the discussions in the following paragraphs.

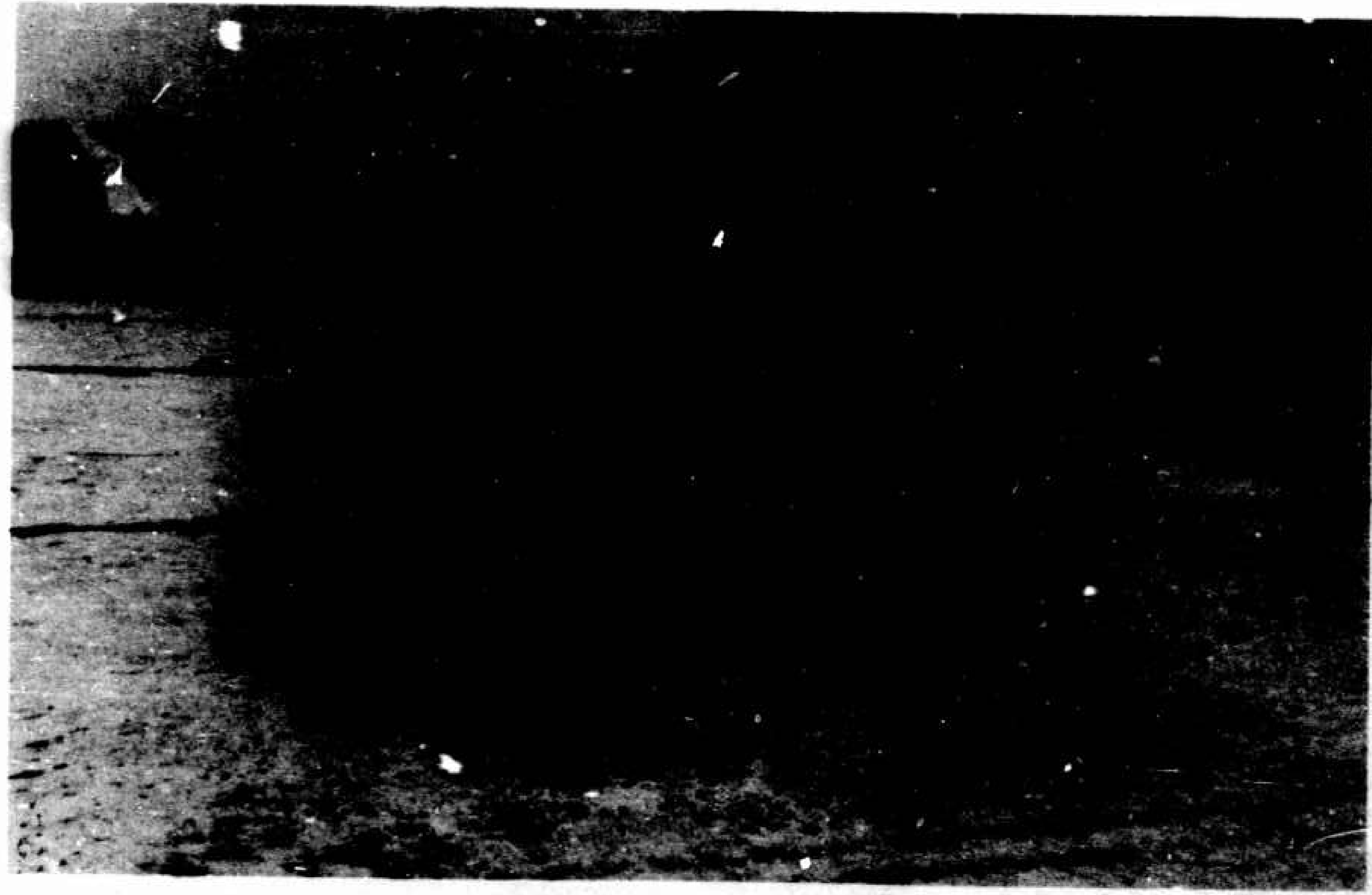


Fig. B26. M151A2, 4x4, 1/4-ton truck

Fig. E27. M114A1E1 armored command and reconnaissance carrier

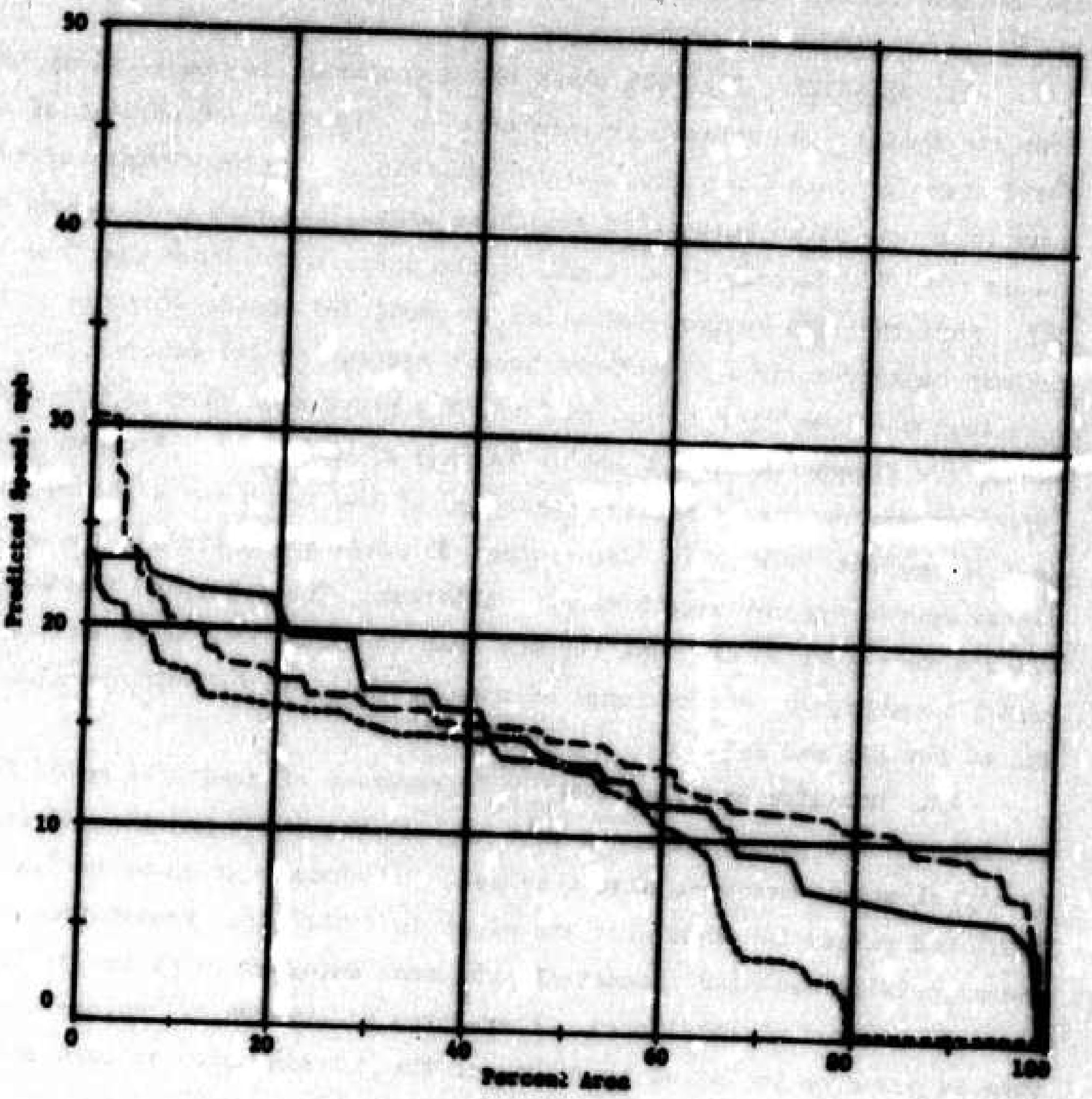
41. The above data were examined from the standpoint of both areal occupancy and frequency of occurrence of speed in terrain units. Mobility profiles were arranged to show the degradation in speed from the best to the poorest terrain units.

<u>Predicted speed</u>

42. <u>M114A1E2</u>. Fig. B28 shows the degradation in predicted speed from the best to the poorest terrain unit as a function of percent of the total area for each study area for the M114A1E1. For the terrain units comprising any given percent of the three areas, the predicted speeds were lowest for FK2, largely as a result of the obstacles (eroded ditches) in FK2. Note that the largest variation in predicted speeds occurred in the terrain units comprising about the best 6 percent (0-6%) (where the surface roughness was very low in FK1) and the poorest 30 percent (70-100%) (where the ditches were most severe in FK2) of each area. For the terrain units comprising approximately 35 percent of the three areas [between the best 30 percent (0-30%) and the poorest 35 percent (65-100%)], the predicted speeds are not significantly different. The predicted speeds for FK1 are more similar to those for WGT than to those for FK2 on an areal basis; however, the entire range of speeds predicted for WGT was also predicted for FK1 and FK2.

43. Mobility profiles showing degradation of predicted speed from the best to the poorest terrain unit in each area as a function of frequency of occurrence were also prepared. An example is shown in fig. B29; tabulated values for this plot are given in table B16. Examination of these profiles revealed essentially the same information as the profiles based on percent of total area. Therefore, discussion of vehicle performance is based on the areal occupancy of the terrain units in each study area.

44. <u>M151A2</u>. The mobility profile (fig. B30) for the M151A2 shows that the predicted speed in the terrain units for any given percentage of the three study areas is highest for FK1, generally because the obstacles were less severe and the surface was smoother. The predicted speed in the best 1[illegible] percent of the area and about the poorest 30 percent of the area was higher for WGT than for FK2, again because of the eroded ditches in



LEGEND

WOT ———

FK1 — — —

FK2 - - - - - -

Fig. B28. Predicted speed versus percent area for M114A1E1

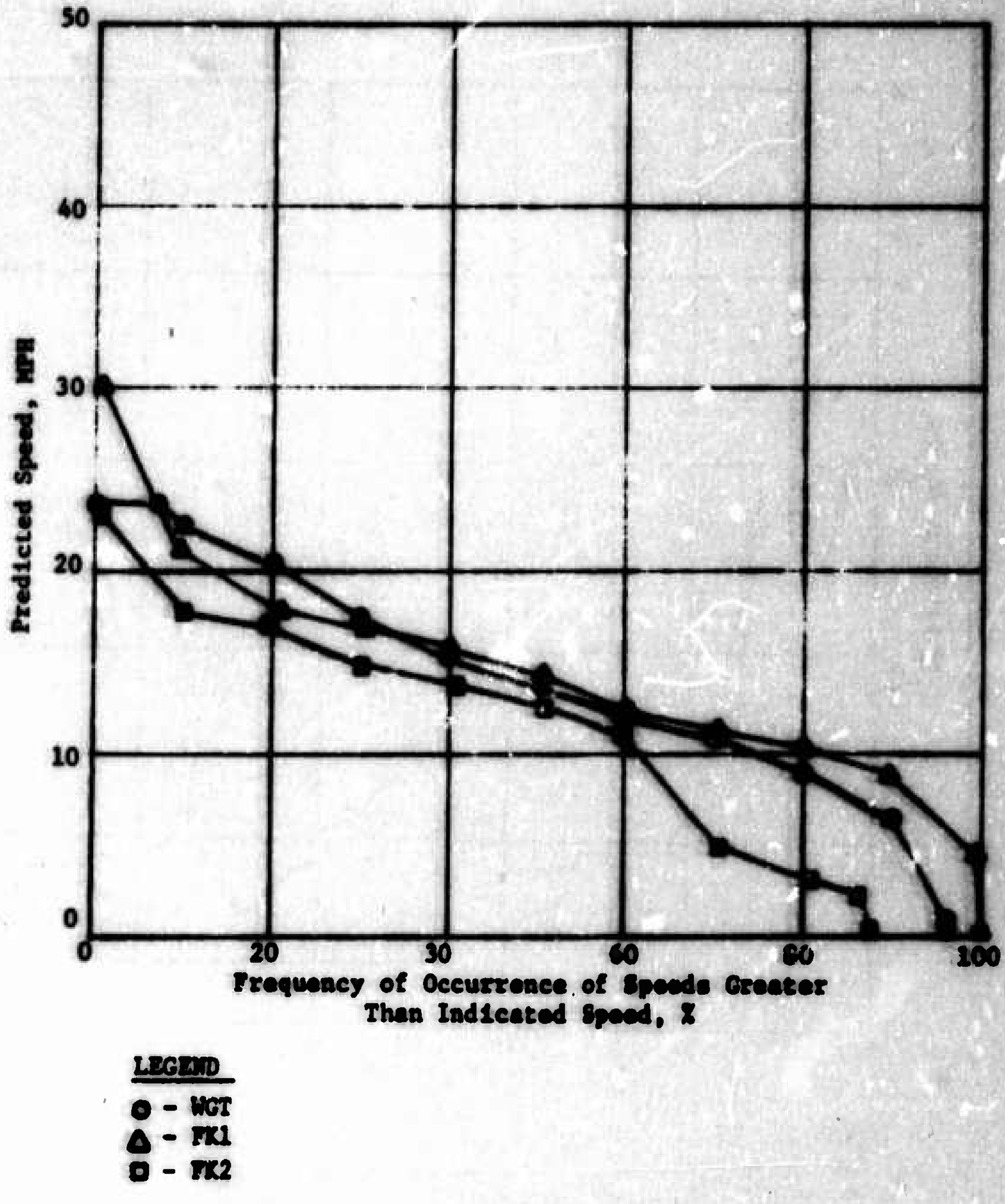
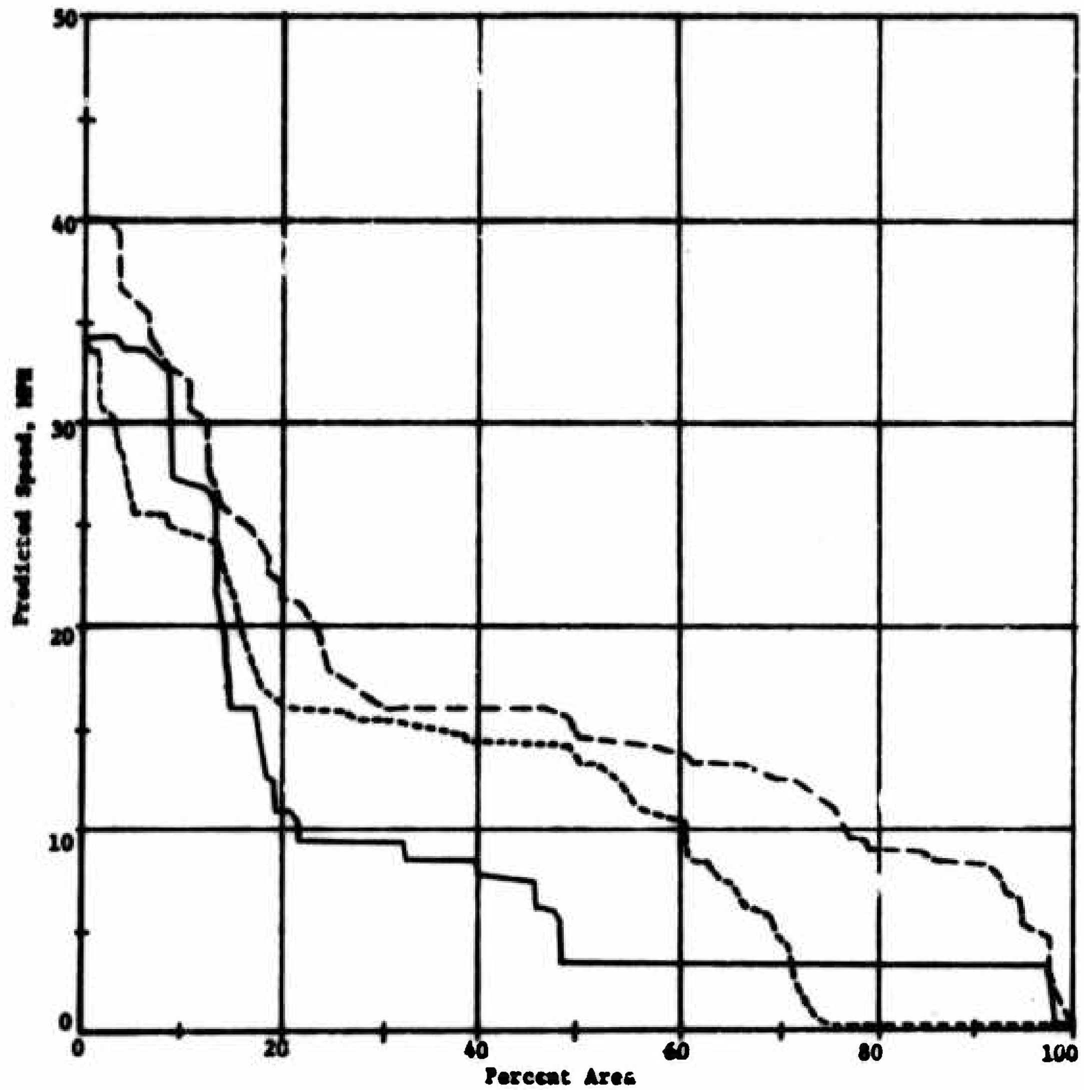


Fig. B29. Predicted speed versus frequency of occurrence of speeds greater than indicated speed for M114A1E1

142<



LEGEND

WGT ———
FK1 — — —
FK2 -----

Fig. B30. Predicted speed versus percent area for M151A2

FK2. For the remaining 55 percent of the area, the predicted speed was higher for FK2 than for WGT, largely due to the row crops in WGT. Overall, the predicted speeds for the M151A2 in WGT are less similar to those in FK1 and FK2 than the predicted speeds for the M114A1E1 because the M151A2 was more sensitive to the obstacles in the areas. This sensitivity was brought about because the M151A2 was considered to have to cross the crop rows in WGT, whereas the M114A1E1 was considered to ride on top of the crop rows.

Cumulative average speed

45. The cumulative average speed is the weighted average of the predicted speeds for the best terrain unit, then the best two terrain units, the best three terrain units, etc., as shown in table B15. It is computed as follows:

$$\text{Cumulative Average Speed} = \frac{\Sigma_o^x \text{ [speed in unit}_i \text{ x unit area}_i]}{\Sigma_o^x \text{ unit areas}}$$

Note that immobilizations are assigned a speed of 0.1 mph (see table B15). This is reflected in the cumulative average speed curves. It should be emphasized, however, that when an immobilization is predicted for a terrain unit, this prediction is applicable to the terrain unit as a whole, and it is realized that careful reconnaissance might disclose a path for crossing the area. For instance, a path might be found between linear obstacles such as erosion ditches which would permit traffic in a single direction.

46. M114A1E1. Fig. B31 shows the degradation in cumulative average speed for the M114A1E1 from the best to the poorest terrain unit in each study area.

47. The cumulative average speed in the best 15 percent of the area is highest for FK1. When greater than 15 percent and less than 60 percent of the are is considered, the cumulative average speed is higher for WGT. When greater than 60 percent of the area is considered, the cumulative average speed is highest for FK1. The cumulative average speed for any given percentage of the area is lowest for FK2. For most of the area, the average speeds for the M114A1E1 are similar for FK1 and WGT.

48. M151A2. The cumulative average speed profile for the M151A2

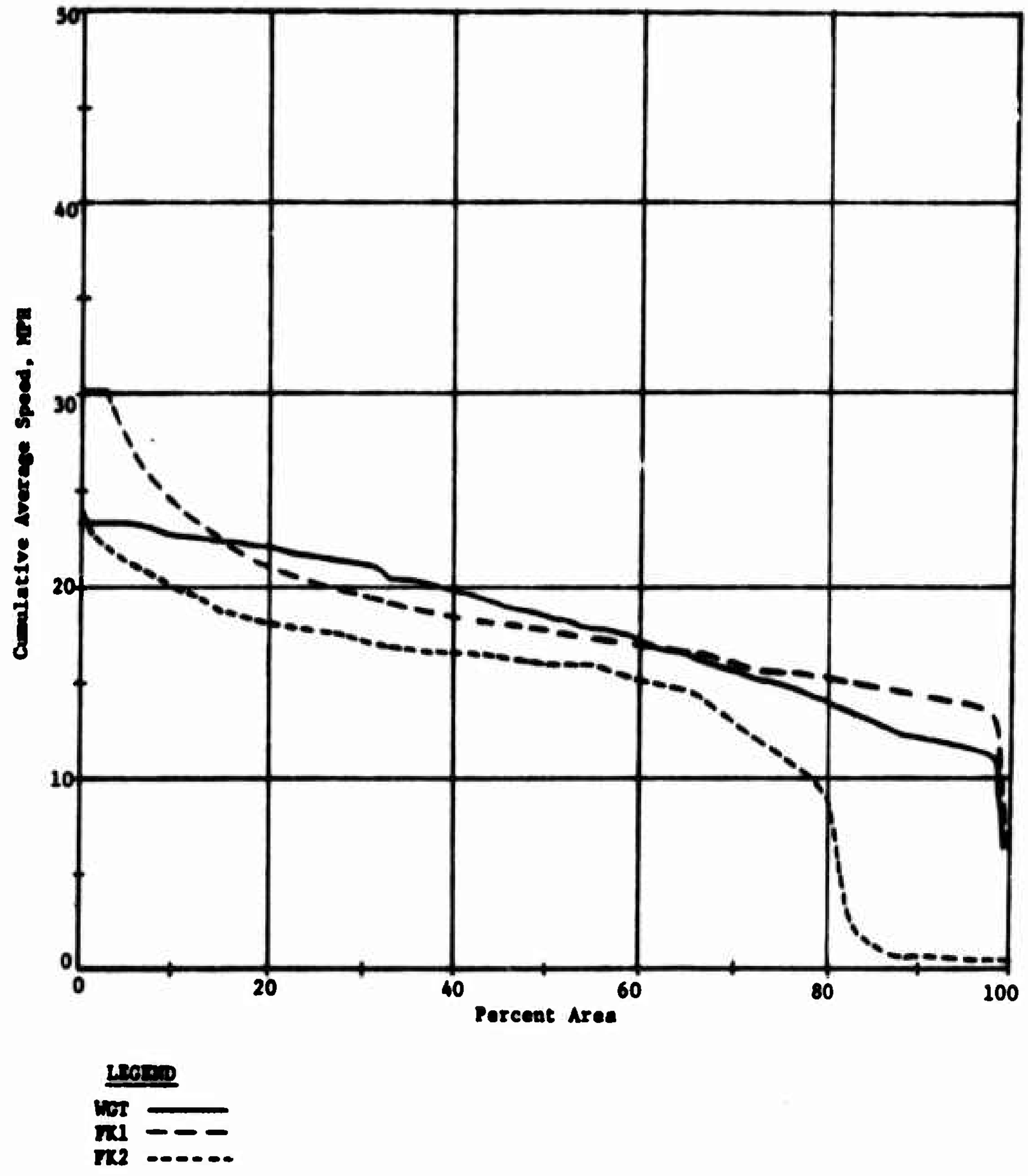


Fig. B31. Cumulative average speed versus percent area for M114A1E1

(fig. B32) shows that the cumulative average speed for any given percentage of the area traversed is higher in FK1 than in FK2 or WGT. The cumulative average speed in the best 20 percent of the area is higher for WGT than for FK2. When greater than 20 percent and less than 75 percent of the area is considered, the average speed is higher for FK2 than for WGT. When greater than 75 percent of the area is considered, the average speed for WGT is higher than that for FK2. Again, the cumulative average speeds for the M151A2 show less similarity between the study areas than the cumulative average speeds for the M114A1E1.

Summary of areal terrain performance

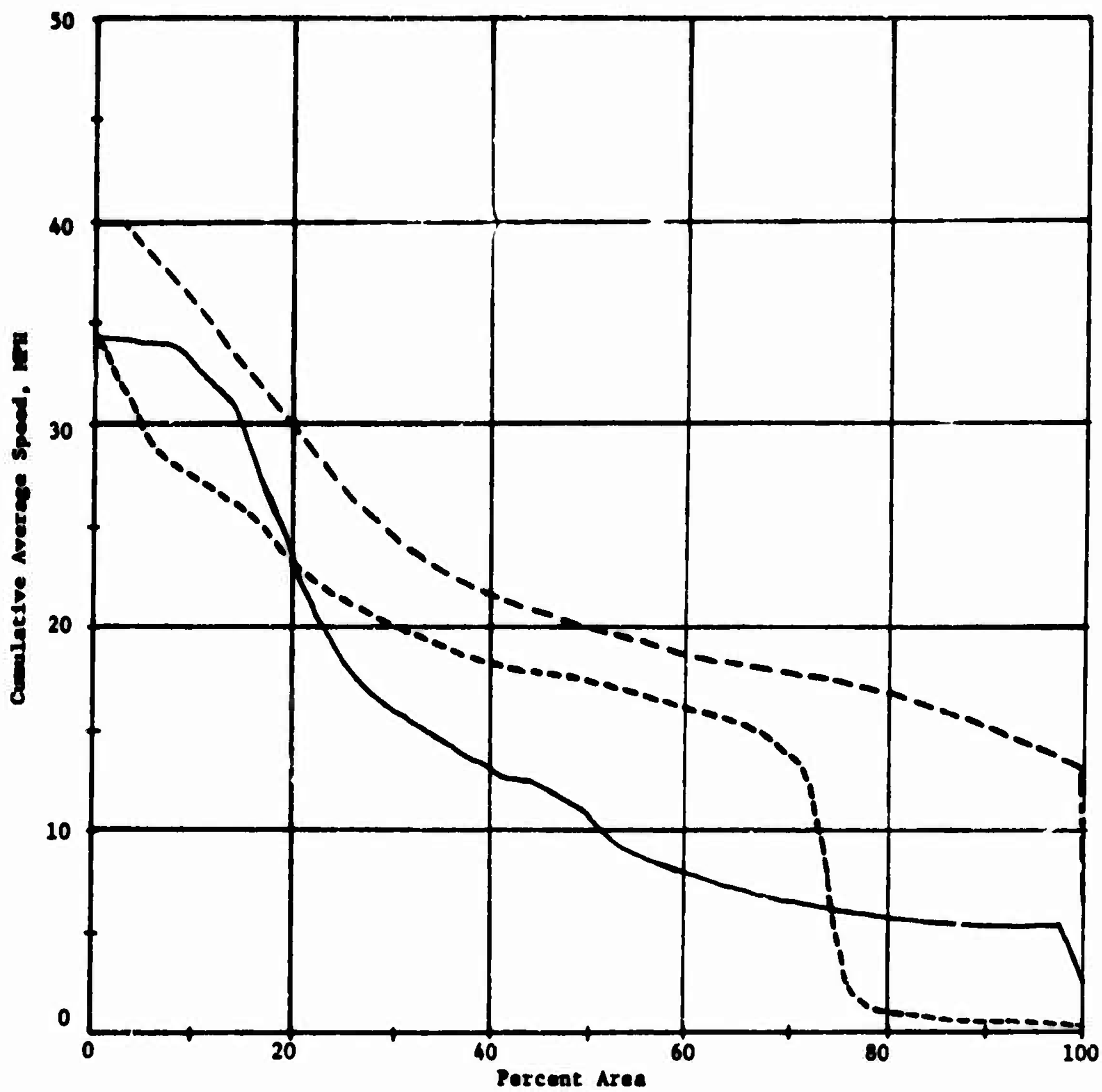
49. A summary of vehicle performance in terms of cumulative average predicted speed of the tracked M114A1E1 and the wheeled M151A2 in the areal terrains of FK1, FK2, and WGT for the best 50 percent (V_{50}) and the best 90 percent (V_{90}) of the respective areas, the ranking of the vehicles (M151A2 speed/M114A1E1 speed), and the predicted percent no go is shown in the following tabulation:

		M114A1E1	M151A2	Ranking
V_{50}	FK1	17 mph	20 mph	118%
	FK2	16 mph	17 mph	106%
	WGT	18 mph	11 mph	61%
V_{90}	FK1	15 mph	17 mph	113%
	FK2	1 mph	1 mph	100%
	WGT	12 mph	6 mph	50%
No Go	FK1	0.8%	2.1%	
	FK2	20.6%	27.7%	
	WGT	0.7%	1.8%	

While the tabulation shows that the ranking of the two different vehicles based on relative speed and percent no go is fairly consistent, the speed performance on an areal basis differs among the three areas.

Controlling Factors in Areal Terrains

50. One of the outputs of the AMC-71 mobility model is the percent of the area at which each of 10 factors either causes an immobilization or limits speed. The 10 controlling factors are identified by number as follows:



LEGEND

WGT ———

FK1 — — —

FK2 - - - - -

Fig. B32. Cumulative average speed versus percent area for M151A2

Controlling Factor No.	Description
	Factors Causing Immobilization
1	Surface strength less than minimum required for one pass
2	Available traction less than total of surface and slope resistances
3	Obstacle interference
4	Available traction less than total of surface, slope, obstacle, and vegetation resistances
	Factors Limiting Speed
5	Ride dynamics
6	Total of surface and slope resistance
7	Visibility
8	Maneuvering
9	Total of surface, slope, obstacle, and vegetation resistances
10	Acceleration and deceleration between obstacles

51. It must be emphasized that controlling factors 5 through 10 given above are those that limit speed in the AMC-71 mobility model and do not indicate the degree of effect of individual terrain factors. Nevertheless, they do provide a useful diagnostic tool, subject to certain limitations. For instance, ride dynamics (5) reflects the effects of small-scale surface irregularities, but does not include the effects of overriding obstacles. Surface and slope resistance (6) indicates the effects of surface strength and gravity. Visibility (7), per se, does not directly affect vehicle speed, but limits the driver's vision and hence his ability to avoid obstacles, thus indirectly limiting speed. Factors 8 and 9 indicate the effects of vegetation, soil, slope, and obstacles and are considered together in this analysis as the effects of vegetation-soil-slope combination. The minor effect of obstacles included in factor 9 is not considered. Factor 10 indicates the major effects of obstacles; this includes the speed reduction due to shock when overriding an obstacle, and the effects of acceleration and deceleration between obstacles when applicable.

52. The factors controlling speed were examined at increasing intervals of 20 percent of each area in which the predicted speeds were highest, i.e. the best 20 percent, the best 40 percent, 60 percent, 80 percent, and finally for 100 percent of each study area. These data are given

in tables B17 and B18.

M114A1E1

53. WGT. Fig. B33 shows that ride dynamics (factor 5) is the most significant single factor limiting speed of the M114A1E1 in WGT for all intervals, reflecting the effects of cropland. However, in the 0- to 100-percent interval, the vegetation-soil-slope combination (factors 8 and 9) had a slightly larger effect. Another factor which limited speed in at least 10 percent of WGT was obstacles (10). Fig. B34 shows that immobilizations of the M114A1E1 occurred in less than 1 percent of WGT. These resulted from soil-slope (2), obstacle interference (3), and lack of sufficient traction (4).

54. FK1. In FK1 the two factors (8 and 9) which are associated with vegetation, soil, and slope are the most significant factors limiting speed of the M114A1E1 for all intervals. This was not unexpected since 76 percent of FK1 is wooded. Other factors which limited speed in at least 10 percent of FK1 were ride dynamics (5), soil-slope (6), and obstacles (10). Immobilizations of the M114A1E1 occurred in less than 1 percent of FK1. They resulted from lack of sufficient traction (4).

55. FK2. For the best 20 percent of FK2, ride dynamics (5) is the most significant factor limiting speed of the M114A1E1; for all other intervals, obstacles (factor 10) were the most significant as a result of the erosion ditches in FK2. Other factors which limited the speed of the M114A1E1 in at least 10 percent of FK2 were ride dynamics (5) and vegetation-soil-slope combination (8 and 9). Immobilizations of the M114A1E1 in 12.6 percent of FK2 were caused by obstacle interference (3) and in 7.9 percent of FK2 were caused by lack of sufficient traction (4).

56. It is noteworthy that not only do all of the factors limiting speed in WGT occur in FK1 and FK2, but they occurred in most speed ranges, indicating a wide range of effects.

M151A2

57. WGT. Fig. B35 shows that ride dynamics (factor 5) was the most significant factor limiting pseed of the M151A2 in the best 20 percent of WGT. In the best 40 and best 60 percent of WGT, vegetation-soil-slope combination (factors 8 and 9) was the most significant; in the best

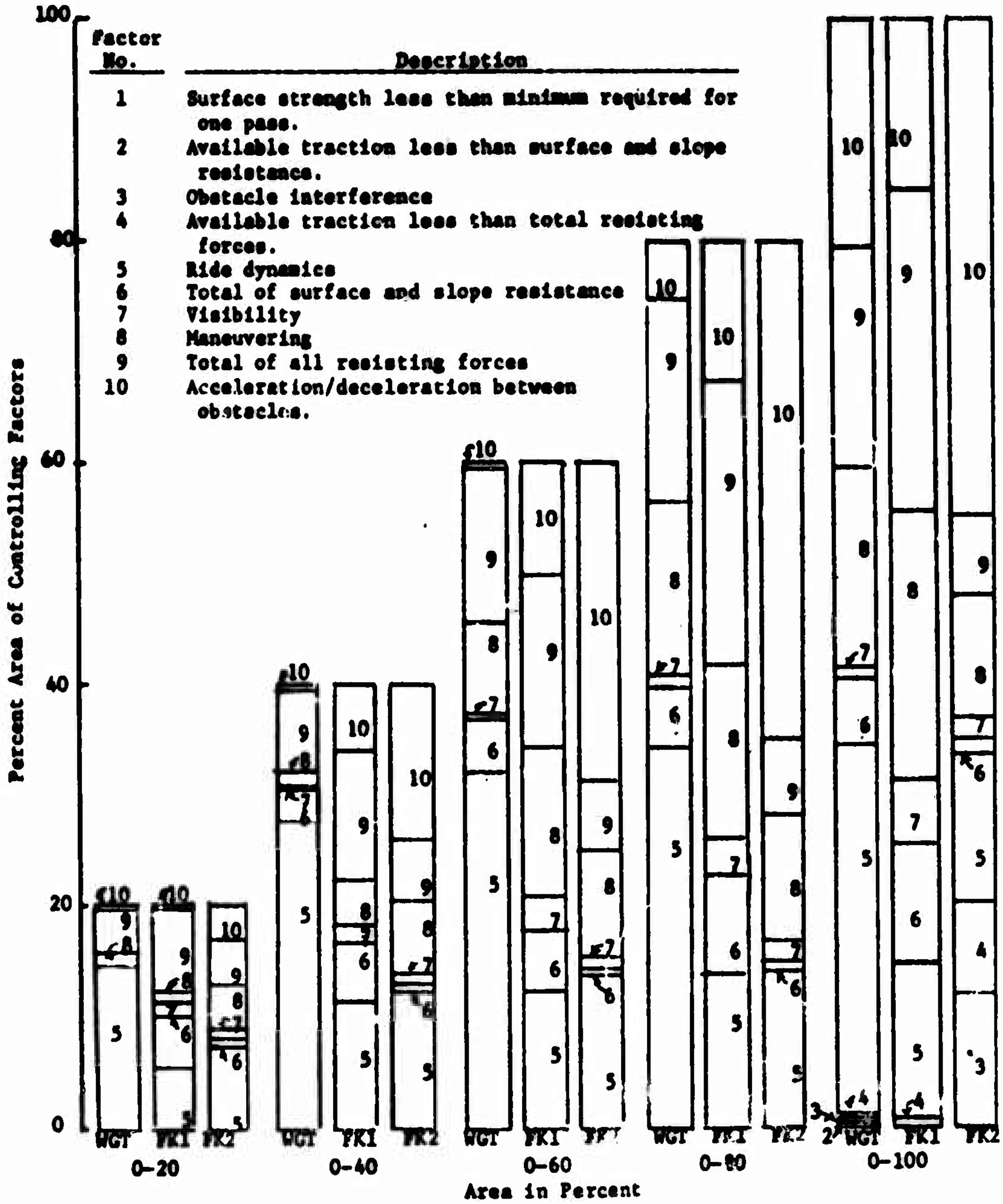


Fig. B33. Controlling factors for the M114A1E1

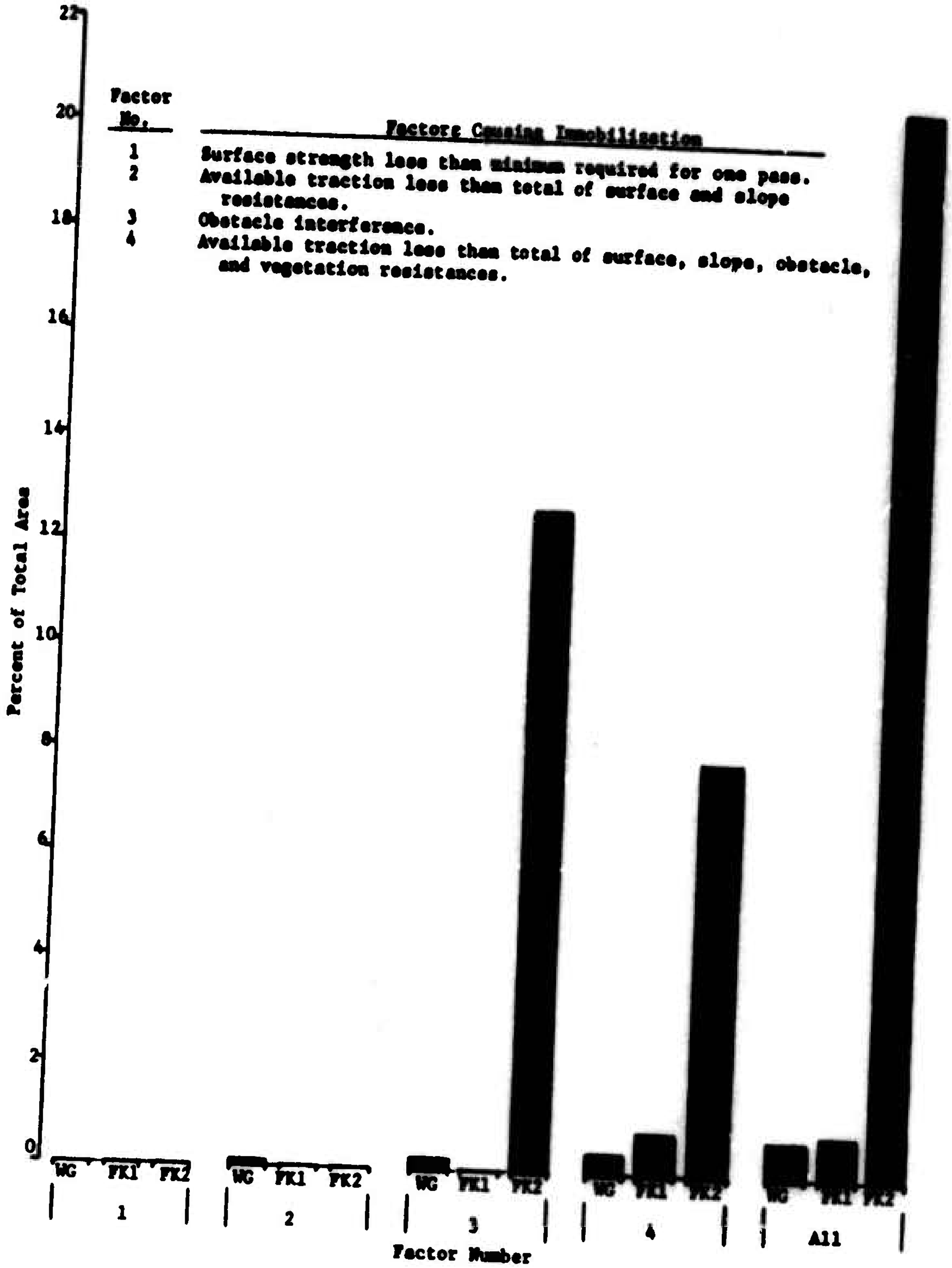


Fig. B34. Factors causing immobilization for the M114A1E1

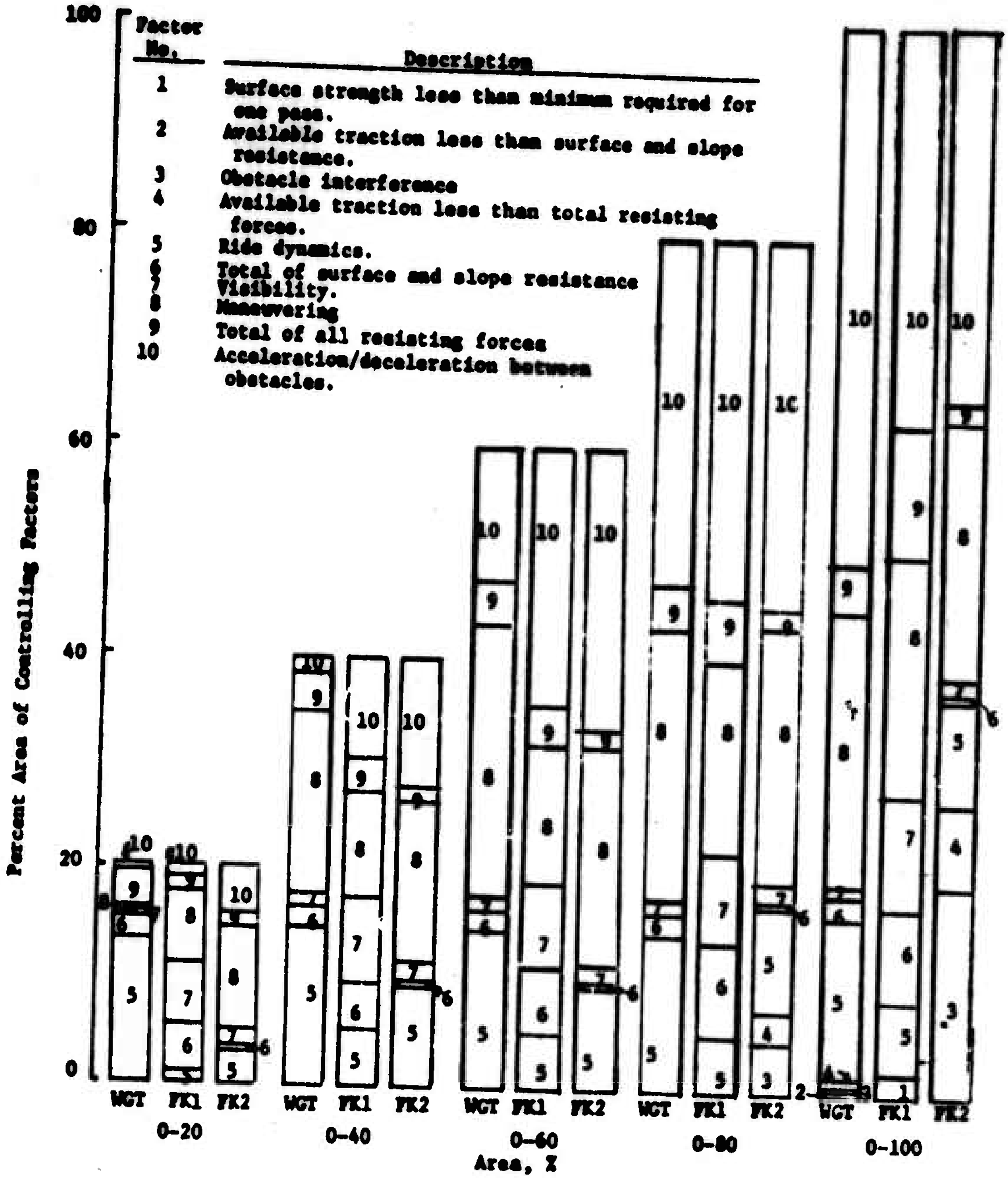


Fig. B35. Controlling factors for the M151A2

80 percent and when 100 percent of WGT was considered, obstacles (factor 10) were most significant. These results reflect the effects of the croplands and forests in WGT. Fig. B36 shows that immobilization of the M151A2 were predicted in less than 2 percent of WGT. They were caused by soil-slope (2), obstacle interference (3), and lack of sufficient traction (4).

58. FK1. In FK1, vegetation-soil-slope combination (8 and 9) limited speed of the M151A2 most frequently in the best 20 and best 40 percent of the area. In the best 60 and 80 percent, and when 100 percent is considered, obstacles (10) most frequently limited speed. The only other factor which limited speed of the M151A2 in at least 10 percent of FK1 was visibility (7). Again, the preponderance of wooded area in FK2 is shown. All immobilizations, which amounted to 2.1 percent of FK1 were due to soft soils (1).

59. FK2. In the best 20 and best 40 percent of FK2, the speed of the M151A2 was most frequently limited by the vegetation-soil-slope combination (8 and 9). In the best 60 and 80 percent, and when the entire area was considered, obstacles (10) limited the speed most frequently. Immobilizations were caused by obstacle interference in 20 percent of FK2 and 7.9 percent of FK2 by lack of sufficient traction (4). Both the factors limiting speed and the factors causing immobilization indicate the range of severity of erosion ditches in FK2.

Effects of Vehicle Characteristics

60. To show the relative overall importance of vehicle ride, traction, and power train, and other vehicle characteristics more clearly, separate plots were made for each factor limiting speed.

61. Ride dynamics (fig. B37) limited speed for the M114A1E1 much more frequently than for the M151A2 in WGT and slightly more often in FK1 and FK2. Most of the effect of ride dynamics occurs in the best 40 percent of the areas (i.e. that 40 percent in which the highest speeds occurred). This reflects the better suspension characteristics of the M151A2 at higher speeds as shown in table B14 where an 1.0 rms allows 34.0 mph for the M151A2 and 23.5 mph for the M114A1E1.

62. Surface and slope resistance (fig. B38) generally limited the

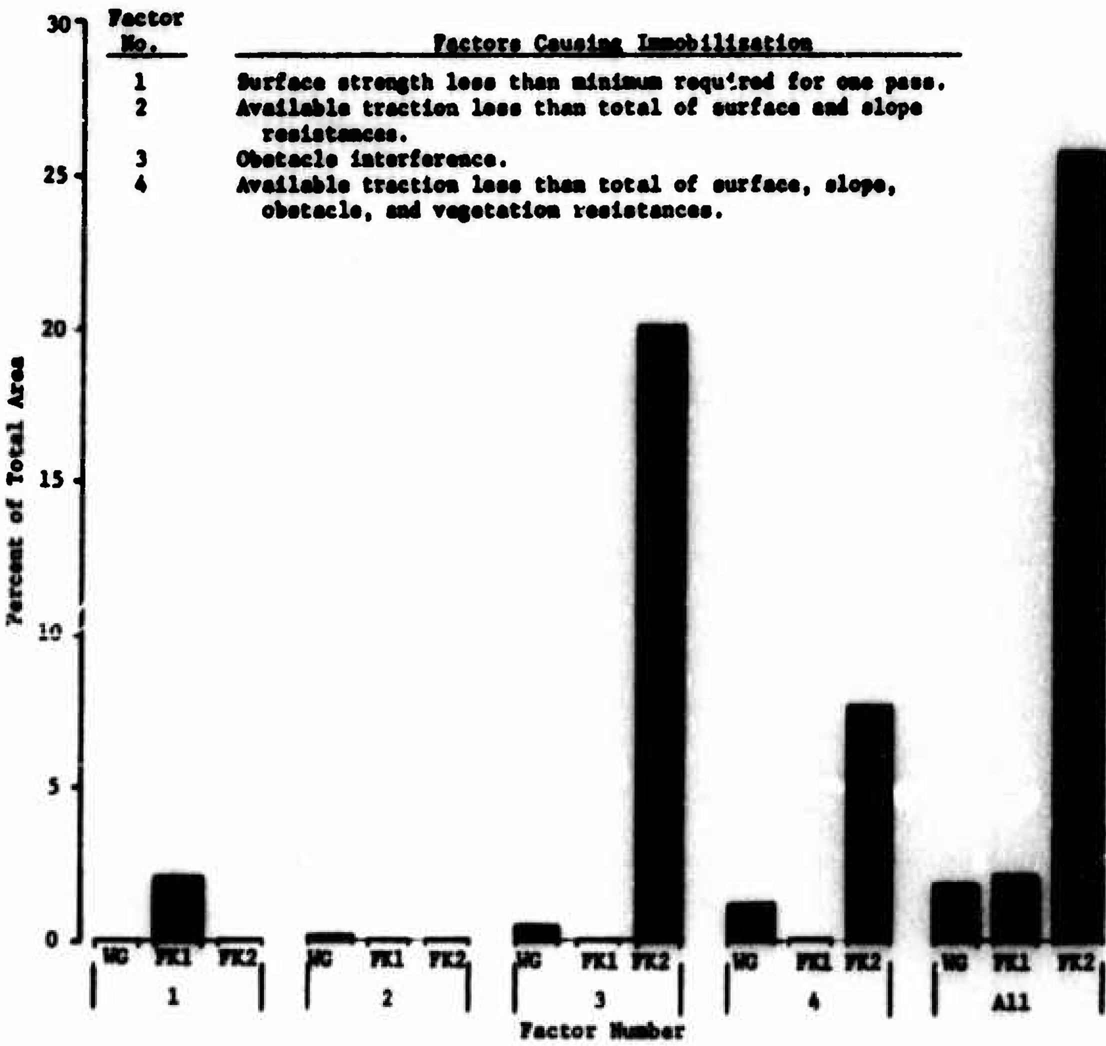


Fig. B36. Factors causing immobilization for the M151A2

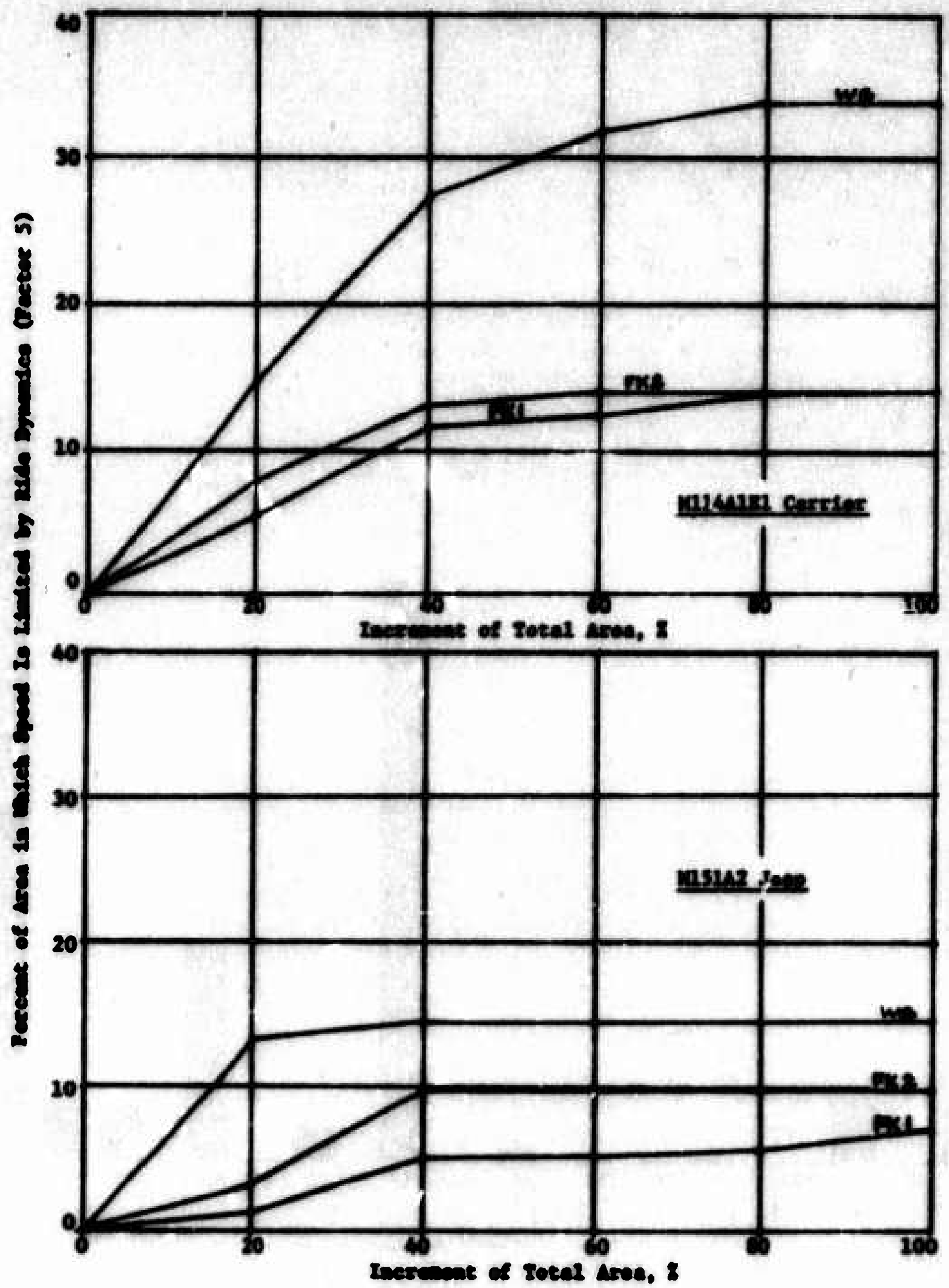


Fig. B37. Effects of ride dynamics on speed

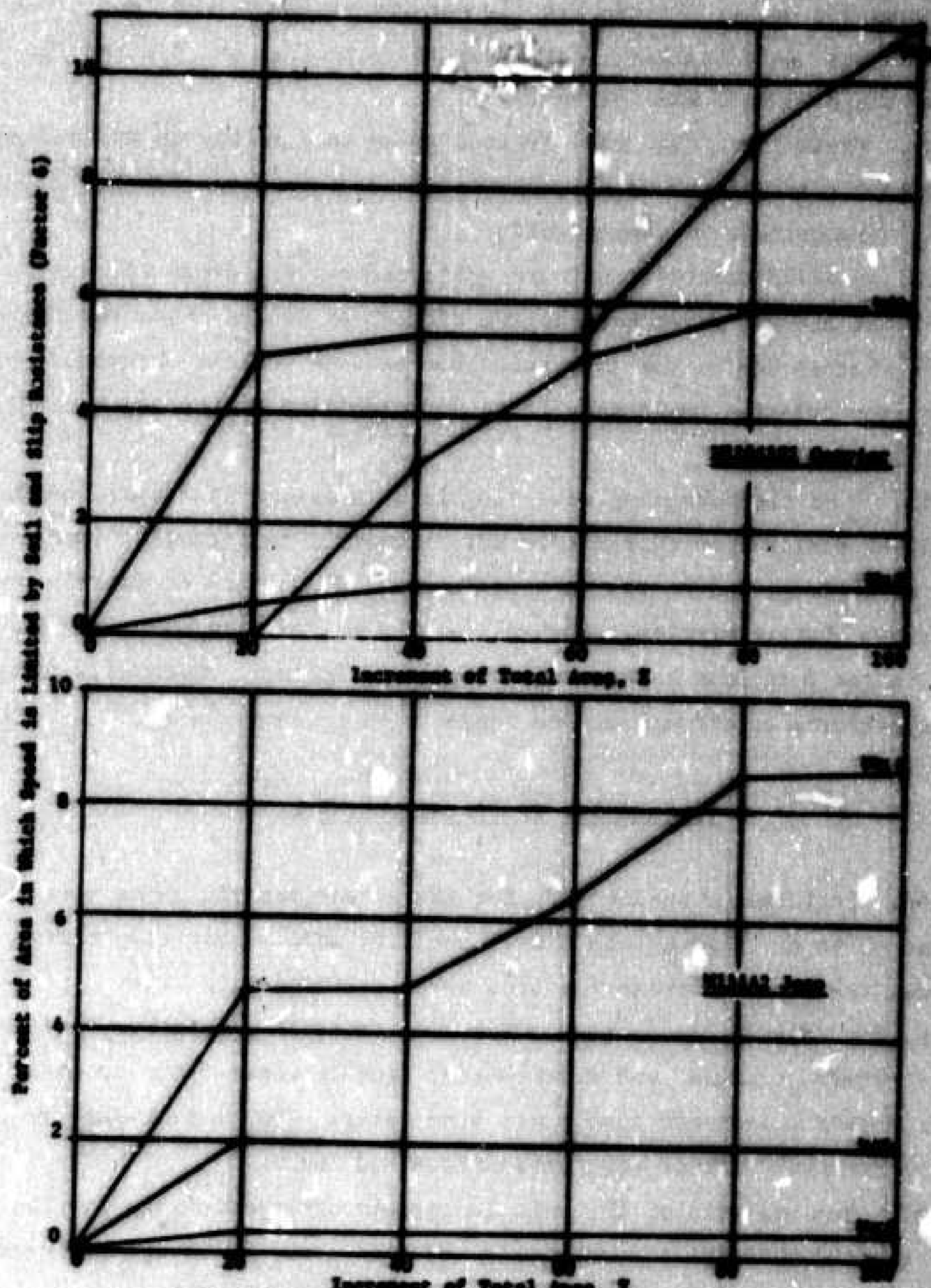


Fig. 138. Effects of soil strength and slope on speed

speed for the M114A1E1 more frequently than for the M151A2, although the differences are small. In the best 20 percent of WGT surface and slope resistance was not a limiting factor for the M114A1E1, but limited the speed of the M151A2 to some extent.

63. Visibility (fig. B39) limited speed only rarely in FK2 and WGT. The difference in FK1 is probably due to the fact that the tracked M114A1E1 can stop more quickly in weaker soils.

64. Similar examinations were performed for the other diagnostic factors, but are not shown because the effects of design characteristics are more obscure due to the interrelations between vehicle characteristics. However, the relative importance of each controlling factor can be seen in figs. B33 and B35.

65. From the foregoing analysis, it is apparent that terrains in FK1 and FK2 differ from terrains in WGT in respect to potential immobilizing situations, and to the relative overall importance of vehicle and power train characteristics. However, individual terrain units can be formed in the Fort Knox study areas by plowing up rows, which will affect vehicle performance throughout the range to be expected in WGT.

Performance in Linear Terrains

66. Performance predictions for the linear terrain units were made in terms of go or no go by the AMC-71 mobility model. For comparative purposes, the linear terrain features were separated into three types--wet concave, dry concave, and convex. Wet concave denotes negative features such as rivers, streams, and ditches that contain water. Dry concave denotes negative features that contain no water. Convex features are positive features such as road embankments and levees.

67. The analysis of the vehicle performance predicitons for the M151A2 and the M114A1E1 in each study area in terms of mileage and percent of go for each type of linear feature is shown in table B19.

68. In the wet concave features, both vehicles had a higher percentage of go in FK1 and FK2 than in WGT. This is primarily because there are more large rivers in WGT than in FK1 and FK2.

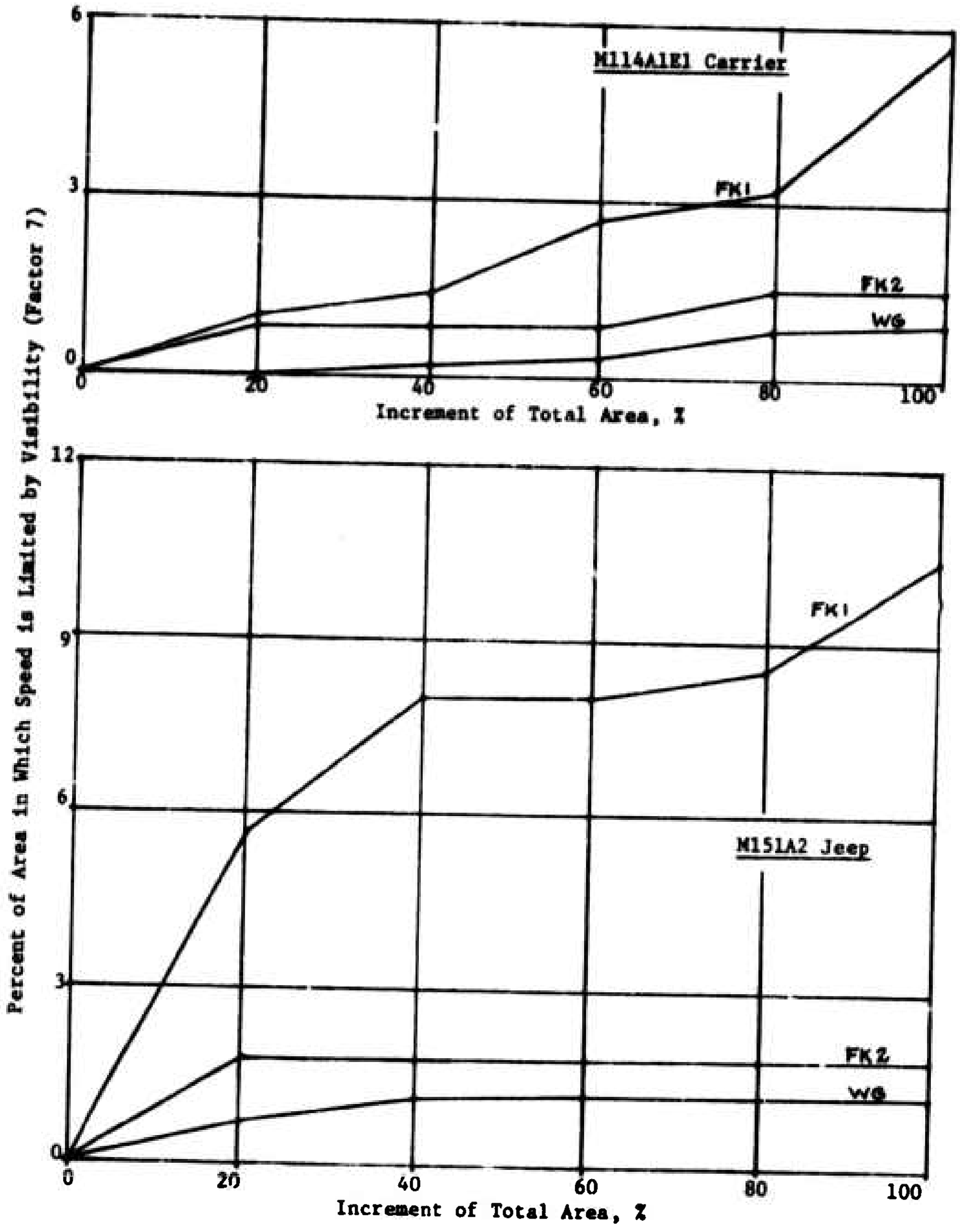


Fig. B39. Effects of visibility on speed

69. In the dry concave features, both vehicles had a higher percentage of go in FK1 than in WGT because of the steep road cuts in WGT. The performances in FK2 and WGT were, in general, similar. While there were no road cuts in FK2, there were several erosion ditches.

70. There were no convex linear features in FK1, and the convex features in FK2 created no difficulty for the vehicles because of the small size of these features. The convex features in WGT comprised a large percent of the total linear features, reflecting the road embankments which would cause some difficulty for both vehicles.

71. If all dry features are considered, the predicted performance of both vehicles in the three study areas appear to be relatively similar. In all types of linear features the percentage of go was higher for the M114A1E1 than for the M151A2, except for the convex features in FK2 where the predictions indicated no difficulty for either vehicle. This is probably a result of the superior traction and swimming capabilities of the M114A1E1.

Factors Causing No-Go Performance in Linear Terrains

72. The output of the AMC-71 mobility model includes the reasons for no-go predictions in linear terrain units. These diagnostic factors are as follows:

Factor No.	Description
1	Water depth greater than fording depth.
2	Water velocity greater than maximum allowable (allowable water velocity based on control of vehicle while crossing stream and exiting).
3	Bank angle-height combination.
4	Surface strength less than minimum required for one pass.
5	Traction available less than surface and slope resistances.
6	Vehicle geometry-linear feature interference.

The reasons for no-go performance are listed in the order in which the applicable terrain and vehicle characteristics are considered in the AMC-71 mobility model, and must be viewed in that light; i.e. once a no go has been predicted for a linear terrain unit, no further determinations are

made. For example, if the water depth exceeds the fording limit for a nonamphibious vehicle, no determination is made for water velocity, bank angle, or soil strength. Thus, when a factor is given for causing no go, it may be correctly assumed that the preceding factors predicted go, but it may not be assumed that the subsequent factors would predict go. In order to reduce the number of computations involving soil strength and traction, the bank angle-height combinations which would yield a no-go condition for both vehicles regardless of soil strength were established. The following values were used:

	Bank Angle, deg	Height, ft
For wet concave features	30 or greater	13
For dry concave features	40 or greater	13
For convex features	40 or greater	13

Note that this is always a special case of factor 5 and may be a special case of factor 4 or factor 6. The immobilizations due to water depth and water velocity (table B20) reflect the presence of the Salt River in FK1 and the Neckar River in WGT. Note that the predictions indicate the amphibious M114A1E1 would do no better in the Salt River (and only slightly better in the Neckar River) than the nonamphibious M141A2. For this study the M141A2 was considered to be operating without a fording kit; however, the depths of the Salt and Neckar Rivers were such that use of the fording kit would not have made them passable.

73. A summary of the vehicle performance diagnostics is given in table B20. Since the M114A1E1 is an amphibious vehicle, water depth caused immobilizations only for the M151A2. For this study the M151A2 was considered to be operating without a fording kit. Fording depth is given in table B11.

74. The lengths of the no go's due to the bank angle-height combination are different for the two vehicles in WGT because the effects of water depth and velocity are considered first in the AMC-71 mobility model.

75. No linear terrain units caused immobilization as a result of insufficient soil strength; i.e. RCI less than VCI_1.

76. The M114A1E1 had fewer no go's from traction failure in FK1 than the M151A2.

77. Vehicle geometry-linear feature geometry interference caused immobilizations only for the M151A1 in WGT. These resulted from the steeper approach angles in WGT than in FK1 or FK2.

78. In general, the diagnostics show that the precentages of the linear terrains affected by each of the factors causing immobilizations were generally similar in all three areas, with FK1 and WGT being more similar due to the presence of large rivers; the major exception being that FK1 and FK2 lacked the steeper approach angles which caused immobilizations were generally similar in all three areas, with FK1 and WGT being more similar due to the presence of large rivers; the major exception being that FK1 and FK2 lacked the steeper approach angles which caused immobilization for the M151A2 in WGT.

Evaluation

Areal distribution

79. The tabulation of the comparative data describing each parameter shown in fig. B40 was used to consider at several levels of detail the relative importance of the parameters compared in the foregoing paragraphs. Each item was evaluated in terms of the similarity of WGT to FK1 and FK2 according to the following scale: high, som, low, and very low. For instance, the size of WGT was considered to have very low similarity to FK1 and high similarity to FK2, etc. In order to summarize the results at the level shown in the table below, the similarity evaluations of the items listed in the last column were arbitrarily assigned numerical values (High - 4, Same - 3, Low - 2, and Very Low - 1). The values given to the comparative data items were summed and averaged. The average values were used to assign the similarity ratings as follows:

161<

	Comparative Data			MGT Similarity To							
	MGT	FK1	FK2	FK1							
General Description				High	Some	Low	Very Low	High	Some	Low	Very Low
Size	60.2 sq mi	6.2 sq mi	4.7 sq mi				x				x
Topography	Plateau	Flood plain	Plateau			x		x			
Elevation	600-1250 ft	400-600 ft	600-800 ft			x			x		
Drainage	Good	Poor	Good				x	x			
Soils	Residual silts and clays	Alluvial silty clays	Residual silty clays			x			x		
Climate	Temperate	Temperate	Temperate	x				x			
Land use	Agricultural	Military training	Military training				x				x
Demography	Cities and villages	Bivouac areas	Bivouac areas				x				x
Roads	Improved roads	Trails	Trails				x				x
Hydrology	Large river, streams and canals	Large river, few small streams	Numerous small streams		x					x	
Areal Terrain Units											
Areal occupancy	23/sq mi	31/sq mi	41/sq mi			x					x
Frequency of occurrence	85/sq mi	52/sq mi	48/sq mi				x				x
Linear Terrain Units											
Linear occupancy	1.5/mi	0.6/mi	1.0/mi				x			x	
Frequency of occurrence	3.5/mi	2.9/mi	1.7/mi		x					x	
Areal Terrain Factors											
Soil type	Fine grained	Fine grained	Fine grained	x				x			
Surface strength	58%>100 RCI	100%>100 RCI	24%>100 RCI				x			x	
	3%<40 RCI	44%<40 RCI	26%<40 RCI				x				x
Slope	28%<5%	77%<5%	63%<5%				x		x		
	15%>20%	2%>20%	0.4%>20%				x				x
Surface roughness	77%<1.5 RMS	48%<1.5 RMS	21%<1.5 RMS			x					x
Visibility	73%>80 ft	61%>80 ft	73%>80 ft		x			x			
Vegetation	66% open	22% open	46% open				x		x		
	8% light	36% light	18% light				x			x	
	26% heavy	42% heavy	36% heavy			x			x		
Obstacles	Rare	Logs	Logs and ditches				x				x
Linear Terrain Factors											
Soil type	Coarse grained	Fine grained	Fine grained				x				x
Surface strength	100%>100 RCI	39%>100 RCI	20%>100 RCI				x				x
		9%<40 RCI	27%<40 RCI			x					x
Approach angles	63%>20°	78%>20°	63%>20°		x			x			
Low bank height	79%<1m	62%<1m	88%<1m		x				x		
Water depth	56%<1m	70%<1m	100%<1m		x						x
Water velocity	76%<1m/sec	71%<1m/sec	62%<1m/sec	x					x		
Performance of M114A1E1											
No Go (areal)	0.7%	0.8%	20.6%	x							x
No Go (linear)	30%	32%	20%	x					x		
Predicted speed for best 50% of area	14-24 mph	15-30 mph	13-23 mph		x			x			
Weighted average speed for best 50% of area	18 mph	17 mph	16 mph	x				x			
Performance of M151A2											
No Go (areal)	1.8%	2.1%	27.7%	x							x
No Go (linear)	44%	55%	32%		x			x			
Predicted speed for best 50% of area	4-34 mph	14-40 mph	13-34 mph			x				x	
Weighted average speed for best 50% of area	11.3 mph	20.2 mph	17.3 mph			x				x	
Factors Causing No Go for M114A1E1 in Areal Terrains											
Insufficient traction	0.4%	0.8%	7.9%	x							x
Obstacle interference	0.2%	—	12.6%	x							x
Soil-slope	0.1%	—	--	x				x			
Factors Causing No Go for M114A1E1 in Linear Terrains											
Insufficient traction	21.7%	5.6%	17.3%			x		x			
Bank severity	4.8%	8.6%	3.0%	x				x			
Water velocity	3.6%	18.0%	—			x				x	
Significant Factors Limiting Speed for M114A1E1											
Vegetation-soil-slope	37.6%	52.9%	17.9%		x					x	
Ride dynamics	34.0%	14.0%	14.0%			x				x	
Obstacles	21.0%	15.6%	44.9%		x					x	
Soil-slope	1.0%	11.0%	5.9%		x		x			x	
Factors Causing No Go for M151A2 in Areal Terrains											
Insufficient traction	1.2%	—	7.7%	x						x	
Obstacle interference	0.4%	—	20.0%	x							x
Soil-slope	0.2%	—	—	x				x			
Soft soil	—	2.1%	—	x				x			
Factors Causing No Go for M151A2 in Linear Terrains											
Insufficient traction	31.2%	28.8%	29.0%	x			x				
Bank severity	4.0%	8.6%	3.0%	x				x			
Water depth	4.8%	18.0%	—		x					x	
Bank interference	4.0%	--	—			x				x	
Significant Factors Limiting Speed of M151A2											
Vegetation-soil-slope	30.1%	34.8%	25.8%	x				x			
Ride dynamics	14.6%	6.9%	9.8%				x			x	
Obstacles	50.2%	37.0%	34.4%		x				x		
Visibility	1.1%	10.4%	1.8%				x	x			

Fig. B40. Tabulat. of comparative data

Evaluation Parameter	WGT Similarity To: FK1 High	FK1 Some	FK1 Low	FK1 Very Low	FK2 High	FK2 Some	FK2 Low	FK2 Very Low
1. General description			X				X	
2. Areal terrain units			X					X
3. Linear terrain units			X				X	
4. Areal terrain factors				X			X	
5. Linear terrain factors			X				X	
6. Performance of M114A1E1	X					X		
7. Performance of M151A2		X					X	
8. Factors causing no go's for M114A1E1		X						
9. Significant factors limiting speed for M114A1E1			X			X		
10. Factors causing no go's for M151A2	X					X		
11. Significant factors limiting			X			X		

NOTE: Nos. 6, 7, 8, and 10 include both areal and linear terrains.

80. General description. The tabulation shows that the general description of the areas indicate low similarity of WGT to FK1 and FK2.

81. Terrain units and terrain factors. The second, third, fourth, and fifth parameters show low or very low similarity of WGT to FK1 and FK2 as would be expected since these parameters summarize measurements of specific factors used to describe terrain.

82. Mobility performance. The mobility parameters, i.e. 6-11, show the similarity in vehicle performance factors causing no go and factors limited speed for the M114A1E1 and M151A2.

83. The predicted performance of the M114A1E1 was highly similar in WGT and FK1. The factors causing no go's for the M114A1E1 were only somewhat similar in WGT and FK1, and the factors limiting speed of the M114A1E1 show a low similarity between WGT and FK1. The performance of the M114A1E1 in WGT and FK2 was somewhat similar, the factors causing no go and the factors limiting speed were also somewhat similar.

84. The predicted performance of the M151A2 was somewhat similar in WGT and FK1, the factors causing no go for the M151A2 were highly similar between WGT and FK1, and the factors limiting speed showed low similarity between WGT and FK1. The performance of the M151A2 in WGT showed low simialrity to that in FK2; the factors causing no go for the

M151A2 showed some similarity between WGT and FK2; and the factors limiting speed were somewhat similar.

85. When considered together, the predicted performance of the two vehicles indicated more similarity between WGT and FK1, the factors causing no go indicate more similarity between WGT and FK1, and the factors limiting speed indicate more similarity between WGT and FK2.

86. Overall, the mobility parameters indicate that the terrain in FK1 and FK2 is somewhat similar to that in WGT in terms of vehicle response.

Occurrences

87. Although the areal and linear distributions in the terrains are significantly different, examination of the terrain units and the terrain factors individually showed that most of the terrain conditions in WGT that affect mobility can either be found or reproduced with little effort in FK1 and FK2.

88. Areal terrain units. Areal terrain units representative of those in the forested areas of WGT can be selected in FK1 or FK2, although their relative size and frequency of occurrence will differ. Terrain units can be found in FK1 or FK2 which are similar to those in the croplands in WGT except for the obstacles (crop rows), and since these are man made, they can easily be duplicated.

89. Linear terrain units. Generally, linear terrain units similar to those in WGT can be found in FK1 or FK2 except for the linear terrain units comprising the roads. Adding the perimeter road in FK2, which was not mapped, would increase the number of similar terrain units.

90. Areal terrain factors. Although the areal occupancy and frequency of occurrence of individual terrain factor values do differ, generally the factor values which occur in WGT can be found in FK1 or FK2, for example:

a. Soil strength. All of the soil strength classes occurring in WGT can be found in FK1 or FK2.

b. Slopes. The slopes which occur in WGT and not in FK1 or FK2 represent only 0.2 percent of WGT.

c. Surface roughness. All of the surface roughness classes which are in WGT can be found in FK1 or FK2.

d. Visibility. All of the visibility classes occurring in WGT can be found in FK1 or FK2.

e. Obstacles. The major obstacles in WGT which are not found in FK1 or FK2 are the crop rows, which can be easily duplicated.

f. Vegetation. All of the stem diameter classes found in WGT occur in some terrain units of FK1 or FK2. The spacing classes which are not duplicated represent areas of widely spaced trees which have little or no effect on vehicle performance. In any event, these spacing classes could conceivably be duplicated at Fort Knox by removing a few trees.

91. Linear terrain factors. Most of the linear terrain factor values occurring in WGT can be found in FK1 or FK2 except values for low bank height and approach angle terrain factors. However, the overall range of low bank heights in WGT is duplicated in FK1 or FK2, and the missing classes represent only 2.0 percent of the WGT linear features. Most of the approach angles that do not occur in FK1 or FK2 as presently mapped (except the steeper approach angles which resulted from the large cuts and fills along the primary roads in WGT) would be found if the perimeter road around FK2 were included.

92. Vehicle speed. The ranges of vehicle speed for both vehicles that were predicted for WGT were also predicted for FK1 or FK2, although the relative areas for which these speeds were predicted did, in some cases, significantly differ.

93. Factors causing immobilization. The only immobilizing factor in areal terrains which occurred in the predictions for WGT and not in those for FK1 or FK2 was the surface strength-slope combination which represents only 0.2 percent of WGT for the M151A2 and 0.1 percent of WGT for the M114A1E1. The only immobilizing factor in linear terrains which occurred in WGT predictions and not in those for FK1 or FK2 was vehicle geometry-linear feature geometry interference for the M151A2.

94. Factors limiting speed. All of the factors limiting speed that occurred in the WGT predictions also occurred in those for both FK1 and FK2.

Table B1

Summary of Areal Terrain Unit, Areal Occupancy, and Occurrence Data for [illegible]

ITEM NO.	TERRAIN UNIT	TOTAL AREA SQ.MI.	NO. OF OCCUR	MEAN AREA SQ.MI.	AREA <<<<<< >>>>>> %	AREA %	OCCURRENCES <<<<<< >>>>>> %	OCCURRENCES %
1	45	0.287	2	0.143	4.457	4.457	0.623	0.623
2	68	0.175	3	0.058	2.840	7.497	0.935	1.558
3	1	0.174	3	0.058	2.834	10.331	0.935	2.492
4	89	0.152	5	0.030	2.471	12.802	1.558	4.050
5	138	0.140	2	0.070	2.274	15.076	0.623	4.673
6	192	0.129	1	0.129	2.094	17.170	0.312	4.984
7	122	0.127	1	0.127	2.068	19.238	0.312	5.296
8	164	0.126	6	0.021	2.046	21.283	1.869	7.165
9	79	0.122	3	0.041	1.983	23.266	0.935	8.100
10	185	0.119	6	0.020	1.940	25.206	1.869	9.969
11	158	0.108	2	0.054	1.760	26.966	0.623	10.592
12	148	0.100	1	0.100	1.630	28.597	0.312	10.903
13	107	0.098	1	0.098	1.590	30.187	0.312	11.215
14	174	0.094	1	0.094	1.526	31.712	0.312	11.526
15	190	0.089	6	0.015	1.447	33.159	1.869	13.396
16	60	0.086	5	0.017	1.401	34.560	1.558	14.953
17	135	0.085	4	0.021	1.376	35.936	1.246	16.199
18	173	0.084	1	0.084	1.368	37.304	0.312	16.511
19	64	0.081	2	0.040	1.312	38.616	0.623	17.134
20	177	0.079	2	0.039	1.281	39.897	0.623	17.757
21	108	0.076	1	0.076	1.233	41.130	0.312	18.069
22	66	0.076	2	0.038	1.232	42.363	0.623	18.692
23	67	0.074	4	0.019	1.206	43.569	1.246	19.938
24	76	0.071	1	0.071	1.147	44.716	0.312	20.249
25	51	0.069	1	0.069	1.122	45.838	0.312	20.561
26	153	0.069	3	0.023	1.119	46.957	0.935	21.495
27	143	0.069	5	0.014	1.119	48.075	1.558	23.053
28	126	0.065	1	0.065	1.064	49.139	0.312	23.364
29	36	0.065	2	0.033	1.063	50.202	0.623	23.988
30	142	0.065	2	0.033	1.063	51.265	0.623	24.611
31	74	0.065	2	0.033	1.057	52.322	0.623	25.234
32	2	0.060	1	0.060	0.983	53.305	0.312	25.545
33	129	0.059	4	0.015	0.965	54.270	1.246	26.791
34	4	0.059	1	0.059	0.956	55.227	0.312	27.103
35	152	0.058	2	0.029	0.945	56.172	0.623	27.726
36	42	0.057	1	0.057	0.931	57.103	0.312	28.037
37	14	0.056	1	0.056	0.912	58.015	0.312	28.349
38	18	0.055	3	0.018	0.889	58.904	0.935	29.283
39	96	0.053	4	0.013	0.862	59.766	1.246	30.530
40	121	0.052	2	0.026	0.845	60.611	0.623	31.153
41	156	0.051	3	0.017	0.831	61.443	0.935	32.087
42	44	0.049	1	0.049	0.798	62.241	0.312	32.399
43	57	0.049	2	0.024	0.793	63.033	0.623	33.022
44	31	0.049	5	0.010	0.791	63.824	1.558	34.579
45	28	0.048	2	0.024	0.778	64.603	0.623	35.202
46	136	0.047	6	0.008	0.759	65.361	1.869	37.072
47	62	0.046	1	0.046	0.743	66.104	0.312	37.383
48	24	0.044	4	0.011	0.720	66.824	1.246	38.629
49	84	0.043	4	0.011	0.706	67.530	1.246	39.875
50	109	0.043	1	0.043	0.700	68.230	0.312	40.187
51	43	0.041	3	0.014	0.661	68.891	0.935	41.121
52	103	0.040	2	0.020	0.656	69.546	0.623	41.745
53	55	0.040	3	0.013	0.652	70.198	0.935	42.679
54	81	0.036	1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
55	9	0.036	1	0.036	0.577	71.352	0.312	43.302
56	112	0.035	1	0.035	0.575	71.927	0.312	43.614
57	170	0.034	3	0.011	0.559	72.486	0.935	44.548
58	7	0.034	2	0.017	0.557	73.043	0.623	45.171
59	172	0.033	1	0.033	0.542	73.584	0.312	45.483
60	116	0.032	1	0.032	0.527	74.112	0.312	45.794
61	90	0.032	1	0.032	0.520	74.631	0.312	46.106
62	125	0.032	1	0.032	0.512	75.143	0.312	46.417
63	53	0.029	4	0.007	0.478	75.621	1.246	47.664
64	91	0.029	1	0.029	0.471	76.092	0.312	47.975
65	133	0.029	4	0.007	0.470	76.562	1.246	49.221
66	17	0.029	3	0.010	0.466	77.028	0.935	50.156
67	37	0.028	1	0.028	0.462	77.493	0.312	50.467
68	159	0.028	2	0.014	[illegible]	77.9[illegible]	0.623	51.090
69	137	0.028	1	0.028	[illegible]	[illegible]	0.312	51.402
70	144	0.027	1	0.027	0.435	[illegible]	0.312	51.713
71	10	0.027	4	0.007	0.433	[illegible]	1.246	52.960
72	33	0.026	1	0.026	0.429	79.697	0.312	53.271
73	111	0.026	1	0.026	0.426	80.123	0.312	53.583
74	87	0.026	1	0.026	0.422	80.545	0.312	53.894
75	63	0.026	1	0.026	0.419	80.964	0.312	54.206
76	118	0.026	1	0.026	0.416	81.379	0.312	54.517
77	186	0.025	1	0.025	0.415	81.795	0.312	54.829
78	70	0.025	1	0.025	0.410	82.205	0.312	55.140
79	38	0.025	1	0.025	0.402	82.606	0.312	55.452
80	162	0.025	1	0.025	0.401	83.007	0.312	55.763
81	58	0.025	1	0.025	0.400	83.407	0.312	56.075
82	105	0.025	2	0.012	0.399	83.806	0.623	56.698
83	6	0.024	3	0.008	0.395	84.201	0.935	57.632
84	32	0.024	1	0.024	0.395	84.596	0.312	57.944
85	15	0.024	1	0.024	0.391	84.987	0.312	58.255
86	115	0.024	1	0.024	[illegible]	85.376	0.312	58.567
87	101	0.024	2	0.012	[illegible]	85.759	0.623	59.190
88	82	0.024	3	0.008	[illegible]	86.141	0.935	60.125
89	39	0.022	1	0.022	[illegible]	[illegible]	0.312	[illegible]
90	166	0.021	2	0.010	[illegible]	[illegible]	0.623	[illegible]
91	88	0.020	3	0.007	[illegible]	87.151	0.935	[illegible]
92	40	0.019	1	0.019	0.312	87.463	0.312	[illegible]
93	163	0.019	2	0.010	0.312	87.775	0.623	[illegible]
94	104	0.019	1	0.019	0.309	88.084	0.312	[illegible]
95	99	0.018	1	0.018	[illegible]	88.374	0.312	[illegible]
96	47	0.018	4	0.004	[illegible]	[illegible]	1.246	[illegible]
97	139	0.017	1	0.017	[illegible]	[illegible]	0.312	[illegible]
98	182	0.017	1	0.017	[illegible]	[illegible]	0.312	[illegible]
99	26	0.017	2	0.008	0.276	[illegible]	0.623	[illegible]
100	120	0.017	1	0.017	0.276	89.777	0.312	[illegible]
101	181	0.017	2	0.008	0.273	[illegible]	0.623	[illegible]
102	106	0.016	2	0.008	0.267	[illegible]	0.623	[illegible]
103	154	0.016	2	0.008	0.267	[illegible]	0.623	[illegible]
104	114	0.016	1	0.016	0.261	[illegible]	0.312	[illegible]
105	83	0.016	3	0.005	[illegible]	91.103	[illegible]	[illegible]

(Continued)

*Accumulative total.
**Represents the total area occupied by all of the occurrences (patches) of the indicated terrain unit.
†Represents the total number of occurrences (patches) of the indicated terrain unit.

1 of 2 Sheets

Table B1 (Concluded)

ITEM NO.	TERRAIN UNIT	TOTAL AREA SQ.MI.	NO. OF OCCUR	MEAN AREA SQ.MI.	AREA %	AREA Σ %	OCCURRENCES %	OCCURRENCES Σ %
106	184	0.016	1	0.016	0.252	91.356	0.312	69.782
107	167	0.014	1	0.014	0.235	91.591	0.312	70.093
108	12	0.014	1	0.014	0.232	91.823	0.312	70.405
109	49	0.014	1	0.014	0.232	92.055	0.312	70.717
110	35	0.014	1	0.014	0.230	92.285	0.312	71.028
111	19	0.014	1	0.014	0.230	92.515	0.312	71.340
112	171	0.014	2	0.007	0.227	92.742	0.623	71.963
113	5	0.014	1	0.014	0.226	92.968	0.312	72.274
114	102	0.014	2	0.007	0.223	93.191	0.623	72.897
115	8	0.013	1	0.013	0.214	93.404	0.312	73.209
116	93	0.012	2	0.006	0.203	93.607	0.623	73.832
117	119	0.012	2	0.006	0.191	93.798	0.623	74.455
118	54	0.011	1	0.011	0.185	93.983	0.312	74.766
119	147	0.011	1	0.011	0.180	94.163	0.312	75.078
120	176	0.011	1	0.011	0.175	94.338	0.312	75.389
121	130	0.010	1	0.010	0.157	94.494	0.312	75.701
122	107	0.010	1	0.010	0.156	94.650	0.312	76.012
123	75	0.010	1	0.010	0.154	94.805	0.312	76.324
124	20	0.009	1	0.009	0.152	94.957	0.312	76.636
125	41	0.009	2	0.005	0.147	95.104	0.623	77.259
126	106	0.009	1	0.009	0.147	95.252	0.312	77.570
127	150	0.009	1	0.009	0.146	95.398	0.312	77.882
128	73	0.009	1	0.009	0.144	95.542	0.312	78.193
129	117	0.009	1	0.009	0.141	95.683	0.312	78.505
130	46	0.009	1	0.009	0.140	95.823	0.312	78.816
131	61	0.009	2	0.004	0.139	95.962	0.623	79.439
132	128	0.008	1	0.008	0.136	96.098	0.312	79.751
133	97	0.008	1	0.008	0.125	96.223	0.312	80.062
134	100	0.008	1	0.008	0.124	96.348	0.312	80.374
135	155	0.008	2	0.004	0.122	96.470	0.623	80.997
136	94	0.007	1	0.007	0.121	96.591	0.312	81.308
137	189	0.007	1	0.007	0.115	96.706	0.312	81.620
138	141	0.007	1	0.007	0.112	96.818	0.312	81.931
139	179	0.007	1	0.007	0.108	96.926	0.312	82.243
140	123	0.007	1	0.007	0.106	97.032	0.312	82.555
141	165	0.006	1	0.006	0.104	97.136	0.312	82.866
142	59	0.006	1	0.006	0.103	97.239	0.312	83.178
143	71	0.006	2	0.003	0.103	97.342	0.623	83.801
144	169	0.006	1	0.006	0.100	97.442	0.312	84.112
145	127	0.006	2	0.003	0.099	97.541	0.623	84.735
146	21	0.006	1	0.006	0.096	97.638	0.312	85.047
147	8[illegible]	0.006	1	0.006	0.094	97.732	0.312	85.358
148	13[illegible]	0.006	1	0.006	0.094	97.826	0.312	85.670
149	16	0.006	1	0.006	0.091	97.917	0.312	85.981
150	48	0.006	1	0.006	0.090	98.008	0.312	86.293
151	92	0.005	2	0.003	0.089	98.096	0.623	86.916
152	95	0.005	1	0.005	0.088	98.184	0.312	87.227
153	13	0.005	2	0.003	0.086	98.270	0.623	87.850
154	30	0.005	1	0.005	0.084	98.354	0.312	88.162
155	25	0.005	1	0.005	0.076	98.430	0.312	88.474
156	56	0.005	1	0.005	0.073	98.503	0.312	88.785
157	3	0.004	1	0.004	0.073	98.577	0.312	89.097
158	27	0.004	1	0.004	0.070	98.647	0.312	89.408
159	183	0.004	1	0.004	0.065	98.712	0.312	89.720
160	78	0.004	1	0.004	[illegible]	98.777	0.312	[illegible]
161	124	0.004	1	0.004	[illegible]	[illegible]	0.312	[illegible]
162	113	0.004	1	0.004	0.063	98.902	0.312	90.654
163	145	0.004	1	0.004	0.063	98.964	0.312	90.966
164	191	0.004	1	0.004	0.061	99.025	0.312	91.277
165	72	0.004	1	0.004	0.060	99.085	0.312	91.589
166	69	0.003	1	0.003	0.056	99.141	0.312	91.900
167	151	0.003	1	0.003	0.052	99.193	0.312	92.212
168	161	0.003	1	0.003	0.051	99.244	0.312	92.523
169	65	0.003	1	0.003	0.048	99.292	0.312	92.835
170	160	0.003	1	0.003	0.045	99.337	0.312	93.146
171	90	0.003	1	0.003	0.042	99.379	0.312	93.458
172	175	0.003	1	0.003	0.041	99.420	0.312	93.769
173	11[illegible]	0.002	1	0.002	0.039	99.459	0.312	94.081
174	98	0.002	1	0.002	0.039	99.499	0.312	94.393
175	166	0.002	1	0.002	0.038	99.536	0.312	94.704
176	34	0.002	1	0.002	0.037	99.573	0.312	95.016
177	149	0.002	1	0.002	0.035	99.608	0.312	95.327
178	140	0.002	1	0.002	0.034	99.641	0.312	95.639
179	23	0.002	1	0.002	0.033	99.674	0.312	95.950
180	29	0.002	1	0.002	0.033	99.707	0.312	96.262
181	170	0.002	1	0.002	0.032	99.739	0.312	96.573
182	157	0.002	1	0.002	0.032	99.771	0.312	96.885
183	134	0.002	1	0.002	0.031	99.802	0.312	97.196
184	22	0.002	1	0.002	0.030	99.832	0.312	97.508
185	188	0.002	1	0.002	0.028	99.860	0.312	97.819
186	77	0.002	1	0.002	0.026	99.886	0.312	98.131
187	8[illegible]	0.001	1	0.001	0.023	99.907	0.312	98.442
188	52	0.001	1	0.001	0.023	99.930	0.312	98.754
189	132	0.001	1	0.001	0.023	99.953	0.312	99.065
190	146	0.001	1	0.001	0.018	99.970	0.312	99.377
191	86	0.001	1	0.001	0.015	99.985	0.312	99.688
192	11	0.001	1	0.001	0.015	100.000	0.312	100.000

(2 of 2 sheets)

Table B2

Summary of Areal Terrain Unit, Areal Frequency, and Occurrence Data for Ft. [illegible] Study Area 2 ([illegible])

ITEM NO.	TERRAIN UNIT	TOTAL** AREA SQ.MI.	NO.† OF OCCUR	MEAN AREA SQ.MI.	AREA <<<<<< %	>>>>>> Σ*%	OCCURRENCES <<<<<< %	>>>>>> Σ*%
1	171	.196	1	0.196	4.133	4.133	0.446	0.446
2	9	.166	1	0.166	3.504	7.637	0.446	0.893
3	193	.146	1	0.146	3.086	10.723	0.446	1.339
4	78	.128	1	0.128	2.706	13.428	0.446	1.786
5	95	.122	1	0.122	2.573	16.001	0.446	2.232
6	83	.117	1	0.117	2.463	18.464	0.446	2.679
7	109	.112	1	0.112	2.360	20.824	0.446	3.125
8	75	.082	2	0.041	1.722	22.546	0.893	4.018
9	103	.078	1	0.078	1.654	24.199	0.446	4.464
10	119	.078	1	0.078	1.643	25.843	0.446	4.911
11	133	.078	1	0.078	1.642	27.484	0.446	5.357
12	157	.072	1	0.072	1.525	29.009	0.446	5.804
13	111	.067	1	0.067	1.420	30.430	0.446	6.250
14	1 5	.065	1	0.065	1.381	31.811	0.446	6.696
15	18[illegible]	.065	1	0.065	1.376	33.187	0.446	7.143
16	98	.065	2	0.032	1.362	34.548	0.893	8.036
17	34	.061	1	0.061	1.295	35.843	0.446	8.482
18	136	.061	1	0.061	1.294	37.137	0.446	8.929
19	69	.055	1	0.055	1.160	38.297	0.446	9.375
20	55	.053	2	0.027	1.124	39.421	0.893	10.268
21	38	.051	3	0.017	1.085	40.506	1.339	11.607
22	176	.048	1	0.048	1.019	41.525	0.446	12.054
23	131	.048	1	0.048	1.008	42.533	0.446	12.500
24	11[illegible]	.045	2	0.022	0.943	43.476	0.893	13.393
25	181	.044	1	0.044	0.934	44.410	0.446	13.839
26	104	.043	2	0.022	0.916	45.326	0.893	14.732
27	129	.041	1	0.041	0.858	46.183	0.446	15.179
28	4	.040	1	0.040	0.854	47.037	0.446	15.625
29	17	.040	1	0.040	0.847	47.884	0.446	16.071
30	121	.040	1	0.040	0.833	48.718	0.446	16.518
31	172	.039	2	0.020	0.827	49.545	0.893	17.411
32	188	.039	1	0.039	0.822	50.367	0.446	17.857
33	72	.038	1	0.038	0.803	51.170	0.446	18.304
34	35	.037	1	0.037	0.787	51.957	0.446	18.750
35	146	.037	1	0.037	0.775	52.732	0.446	19.196
36	46	.037	1	0.037	0.774	53.506	0.446	19.643
37	64	.035	2	0.017	0.734	54.240	0.893	20.536
38	179	.034	1	0.034	0.710	54.950	0.446	20.982
39	164	.033	2	0.017	0.700	55.650	0.893	21.875
40	26	.033	1	0.033	0.696	56.345	0.446	22.321
41	134	.033	1	0.033	0.693	57.039	0.446	22.768
42	183	.033	1	0.033	0.686	57.725	0.446	23.214
43	3	.032	1	0.032	0.679	58.404	0.446	23.661
44	184	.031	1	0.031	0.660	59.065	0.446	24.107
45	165	.031	2	0.015	0.649	59.714	0.893	25.000
46	97	.031	2	0.015	0.648	60.362	0.893	25.893
47	116	.031	1	0.031	0.645	61.007	0.446	26.339
48	92	.031	1	0.031	0.645	61.652	0.446	26.786
49	94	.031	1	0.031	0.645	62.297	0.446	27.232
50	166	.030	1	0.030	0.642	62.939	0.446	27.679
51	65	.030	1	0.030	0.640	63.579	0.446	28.125
52	182	.030	1	0.030	0.630	64.209	0.446	28.571
53	53	.030	1	0.030	0.626	64.835	0.446	29.018
54	82	.027	1	0.027	0.579	65.414	0.446	29.464
55	31	.027	1	0.027	0.576	65.990	0.446	29.911
56	13	.027	1	0.027	0.570	66.559	0.446	30.357
57	149	.026	1	0.026	0.550	67.109	0.446	30.804
58	156	.026	2	0.013	0.549	67.658	0.893	31.696
59	155	.025	1	0.025	0.536	68.194	0.446	32.143
60	117	.025	1	0.025	0.534	68.728	0.446	32.589
61	192	.024	1	0.024	0.517	69.244	0.446	33.036
62	145	.024	1	0.024	0.517	69.761	0.446	33.482
63	39	.024	1	0.024	0.508	70.268	0.446	33.929
64	16	.024	1	0.024	0.507	70.776	0.446	34.375
65	22	.024	2	0.012	0.499	71.275	0.893	35.268
66	12	.024	2	0.012	0.499	71.774	0.893	36.161
67	189	.024	1	0.024	0.498	72.272	0.446	36.607
68	132	.023	1	0.023	0.491	72.763	0.446	37.054
69	122	.023	1	0.023	0.484	73.247	0.446	37.500
70	191	.022	1	0.022	0.469	73.717	0.446	37.946
71	66	.022	1	0.022	0.458	74.175	0.446	38.393
72	18	.022	1	0.022	0.457	74.632	0.446	38.839
73	74	.022	1	0.022	0.454	75.086	0.446	39.286
74	2[illegible]	.021	1	0.021	0.451	75.536	0.446	39.732
75	128	.021	2	0.010	0.437	75.973	0.893	40.625
76	77	.021	1	0.021	0.435	76.408	0.446	41.071
77	6[illegible]	.020	1	0.020	0.415	76.824	0.446	41.518
78	177	.019	1	0.019	0.411	77.234	0.446	41.964
79	91	.019	2	0.010	0.408	77.642	0.893	42.857
80	174	.019	1	0.019	0.407	78.050	0.446	43.304
81	52	.019	1	0.019	0.406	78.456	0.446	43.750
82	51	.019	1	0.019	0.406	78.862	0.446	44.196
83	76	.019	1	0.019	0.400	79.263	0.446	44.643
84	6	.018	1	0.018	0.379	79.638	0.446	45.089
85	102	.018	1	0.018	0.373	80.011	0.446	45.536
86	140	.017	1	0.017	0.369	80.380	0.446	45.982
87	21	.017	1	0.017	0.367	80.748	0.446	46.429
88	43	.017	1	0.017	0.367	81.115	0.446	46.875
89	81	.017	2	0.008	0.356	81.471	0.893	47.768
90	84	.017	1	0.017	0.356	81.827	0.446	48.214
91	5	.017	1	0.017	0.355	82.182	0.446	48.661
92	126	.017	2	0.008	0.351	82.532	0.893	49.554
93	1[illegible]	.016	1	0.016	0.346	82.878	0.446	50.000
94	17[illegible]	.016	2	0.008	0.339	83.214	0.893	50.893
95	27	.016	1	0.016	0.334	83.547	0.446	51.339
96	108	.015	1	0.015	0.322	83.870	0.446	51.786
97	151	.015	1	0.015	0.317	84.187	0.446	52.232
98	158	.015	1	0.015	0.315	84.502	0.446	52.679
99	87	.014	3	0.005	0.308	84.803	1.339	54.018
100	139	.014	1	0.014	0.299	85.102	0.446	54.464
101	3[illegible]	.014	1	0.014	0.297	85.399	0.446	54.911
102	167	.014	1	0.014	0.297	85.696	0.446	55.357
103	169	.014	1	0.014	0.294	85.990	0.446	55.804
104	49	.014	1	0.014	0.294	86.284	0.446	56.250
105	8	.014	2	0.007	0.291	86.576	0.893	57.143

(Continued)

*Accumulative total.
**Represents the total area occupied by all of the occurrences (patches) of the indicated terrain unit.
†Represents the total number of occurrences (patches) of the indicated terrain unit.

Reproduced from best available copy.

1 of 2 Sheets

Table 32 (Concluded)

ITEM NO.	TERRAIN UNIT	TOTAL AREA SQ.MI.	NO. OF OCCUR	MEAN AREA SQ.MI.	AREA <<<<<< %	>>>>>> C %	OCCURRENCES <<<<<< %	>>>>>> C %
106	168	0.014	3	0.005	0.281	86.867	1.339	58.482
107	113	0.014	1	0.014	0.286	87.153	0.446	58.929
108	57	0.013	1	0.013	0.277	87.430	0.446	59.375
109	4[illegible]	0.013	1	0.013	0.277	87.707	0.446	59.821
110	1[illegible]	0.013	1	0.013	0.275	87.982	0.446	60.268
111	79	0.013	1	0.013	0.272	88.255	0.446	60.714
112	99	0.013	1	0.013	0.267	88.521	0.446	61.161
113	107	0.012	1	0.012	0.262	88.783	0.446	61.607
114	9[illegible]	0.012	2	0.006	0.254	89.038	0.893	62.500
115	19[illegible]	0.012	1	0.012	0.252	89.289	0.446	62.946
116	2	0.012	1	0.012	0.249	89.539	0.446	63.393
117	166	0.012	1	0.012	0.247	89.785	0.446	63.839
118	141	0.012	1	0.012	0.244	90.029	0.446	64.286
119	86	0.012	1	0.012	0.243	90.271	0.446	64.732
120	159	0.011	1	0.011	0.240	90.511	0.446	65.179
121	36	0.011	1	0.011	0.239	90.750	0.446	65.625
122	143	0.011	1	0.011	0.228	90.978	0.446	66.071
123	28	0.011	1	0.011	0.226	91.204	0.446	66.518
124	47	0.011	1	0.011	0.226	91.430	0.446	66.964
125	58	0.011	1	0.011	0.225	91.655	0.446	67.411
126	89	0.011	2	0.005	0.222	91.877	0.893	68.304
127	125	0.010	1	0.010	0.215	92.092	0.446	68.750
128	187	0.010	1	0.010	0.211	92.304	0.446	69.196
129	67	0.010	1	0.010	0.205	92.509	0.446	69.643
130	135	0.010	2	0.005	0.203	92.712	0.893	70.536
131	115	0.009	1	0.009	0.200	92.911	0.446	70.982
132	186	0.009	1	0.009	0.198	93.109	0.446	71.429
133	29	0.009	1	0.009	0.192	93.301	0.446	71.875
134	15[illegible]	0.009	1	0.009	0.192	93.493	0.446	72.321
135	48	0.009	1	0.009	0.190	93.683	0.446	72.768
136	7[illegible]	0.009	1	0.009	0.189	93.872	0.446	73.214
137	12	0.009	1	0.009	0.188	94.060	0.446	73.661
138	93	0.009	2	0.004	0.184	94.244	0.893	74.554
139	127	0.008	1	0.008	0.175	94.419	0.446	75.000
140	137	0.008	1	0.008	0.173	94.592	0.446	75.446
141	68	0.008	1	0.008	0.170	94.762	0.446	75.893
142	19	0.008	1	0.008	0.168	94.930	0.446	76.339
143	130	0.008	1	0.008	0.167	95.096	0.446	76.786
144	41	0.008	1	0.008	0.162	95.259	0.446	77.232
145	88	0.008	1	0.008	0.161	95.420	0.446	77.679
146	44	0.007	1	0.007	0.158	95.578	0.446	78.125
147	63	0.007	2	0.004	0.151	95.729	0.893	79.018
148	153	0.007	1	0.007	0.149	95.878	0.446	79.464
149	56	0.007	1	0.007	0.146	96.024	0.446	79.911
150	124	0.007	1	0.007	0.142	96.166	0.446	80.357
151	1	0.007	1	0.007	0.142	96.308	0.446	80.804
152	163	0.007	1	0.007	0.139	96.446	0.446	81.250
153	54	0.007	1	0.007	0.138	96.585	0.446	81.696
154	14	0.006	1	0.006	0.135	96.719	0.446	82.143
155	7	0.006	1	0.006	0.131	96.850	0.446	82.589
156	15	0.006	1	0.006	0.128	96.979	0.446	83.036
157	62	0.006	1	0.006	0.128	97.107	0.446	83.482
158	101	0.006	1	0.006	0.117	97.224	0.446	83.929
159	194	0.006	1	0.006	0.117	97.341	0.446	84.375
160	192	0.006	1	0.006	0.117	97.457	0.446	84.821
161	16[illegible]	0.005	2	0.003	0.112	97.569	0.893	85.714
162	73	0.005	1	0.005	0.109	97.678	0.446	86.161
163	105	0.005	1	0.005	0.107	97.785	0.446	86.607
164	45	0.005	1	0.005	0.105	97.890	0.446	87.054
165	5	0.005	1	0.005	0.104	97.994	0.446	87.500
166	7[illegible]	0.005	1	0.005	0.104	98.098	0.446	87.946
167	175	0.005	1	0.005	0.098	98.196	0.446	88.393
168	144	0.005	1	0.005	0.098	98.289	0.446	88.839
169	118	0.005	1	0.005	0.096	98.385	0.446	89.286
170	32	0.004	1	0.004	0.095	98.480	0.446	89.732
171	42	0.004	1	0.004	0.091	98.570	0.446	90.179
172	99	0.004	1	0.004	0.087	[illegible]	0.446	90.625
173	148	0.004	1	0.004	[illegible]	98.744	0.446	91.071
174	96	0.004	1	0.004	[illegible]	[illegible]	0.446	91.518
175	161	0.004	1	0.004	0.081	[illegible]	0.446	91.964
176	114	0.004	1	0.004	[illegible]	[illegible]	0.446	92.411
177	25	0.004	1	0.004	[illegible]	[illegible]	0.446	92.857
178	81	0.004	1	0.004	0.079	99.140	0.446	93.304
179	24	0.004	1	0.004	0.075	99.223	0.446	93.750
180	57	0.003	1	0.003	0.072	99.295	0.446	94.196
181	11	0.003	1	0.003	0.069	99.365	0.446	94.643
182	23	0.003	1	0.003	0.064	99.429	0.446	95.089
183	173	0.003	1	0.003	0.061	99.490	0.446	[illegible]
184	33	0.003	1	0.003	0.060	99.549	0.446	[illegible]
185	178	0.003	1	0.003	0.060	99.609	0.446	[illegible]
186	123	0.003	1	0.003	0.059	[illegible]	0.446	96.875
187	147	0.003	1	0.003	0.058	99.726	0.446	97.321
188	112	0.003	1	0.003	0.056	99.782	0.446	97.768
189	142	0.003	1	0.003	0.054	[illegible]	0.446	98.214
190	6[illegible]	0.002	1	0.002	0.043	99.879	0.446	98.661
191	85	0.002	1	0.002	0.042	99.921	0.446	99.107
192	130	0.002	1	0.002	0.040	99.961	0.446	99.554
193	162	0.002	1	0.002	0.039	100.000	0.446	100.000

(2 of 2 sheets)

Reproduced from best available copy.

Table 23

[illegible]

ITEM NO.	TERRAIN UNIT	TOTAL** AREA SQ.MI.	NO.† OF OCCUR.	MEAN AREA SQ.MI.	AREA %	AREA Σ%*	[illegible] %	[illegible] Σ%*
1	1094	3.894	96	0.041	6.009	6.009	1.070	1.070
2	1162	3.781	96	0.039	5.832	11.887	1.070	[illegible]
3	1152	3.594	114	0.032	5.546	17.379	[illegible]	[illegible]
4	1046	3.160	90	0.035	[illegible]	[illegible]	[illegible]	[illegible]
5	[illegible]	2.490	81	0.031	[illegible]	[illegible]	[illegible]	[illegible]
6	873	2.154	136	0.016	[illegible]	[illegible]	[illegible]	[illegible]
7	[illegible]	[illegible]	73	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
8	[illegible]	1.990	107	0.019	[illegible]	[illegible]	[illegible]	[illegible]
9	1805	1.921	127	0.015	2.967	[illegible]	[illegible]	[illegible]
10	447	1.882	133	0.014	[illegible]	[illegible]	[illegible]	[illegible]
11	1899	1.825	105	0.017	[illegible]	[illegible]	[illegible]	[illegible]
12	427	1.617	72	0.022	2.493	46.783	1.407	[illegible]
13	53	1.392	58	0.024	2.146	48.929	[illegible]	[illegible]
14	27?	1.369	42	0.033	2.109	50.995	[illegible]	[illegible]
15	819	1.359	68	0.020	2.096	52.051	[illegible]	[illegible]
16	24	1.193	36	0.033	1.840	54.892	[illegible]	[illegible]
17	292	1.089	91	0.011	1.554	56.447	1.770	[illegible]
18	185	1.008	32	0.031	1.554	58.002	[illegible]	[illegible]
19	457	0.919	79	0.012	1.417	59.419	[illegible]	[illegible]
20	812	0.832	22	0.038	1.283	60.701	[illegible]	[illegible]
21	881	0.788	83	0.009	1.215	61.916	[illegible]	[illegible]
22	297	0.698	52	0.013	1.076	62.992	[illegible]	[illegible]
23	840	0.692	72	0.010	1.067	64.059	1.407	[illegible]
24	496	0.515	27	0.019	0.794	64.852	[illegible]	[illegible]
25	988	0.441	3	0.147	0.681	65.533	[illegible]	[illegible]
26	989	0.362	12	0.032	0.589	66.122	[illegible]	[illegible]
27	1071	0.382	13	0.027	0.589	66.711	[illegible]	[illegible]
28	996	0.360	14	0.026	[illegible]	67.[illegible]	0.276	[illegible]
29	704	0.356	34	0.011	0.548	67.019	[illegible]	[illegible]
30	1876	0.320	11	0.029	0.487	68.482	[illegible]	[illegible]
31	1875	0.313	13	0.024	0.483	68.705	[illegible]	[illegible]
32	900	0.261	25	0.010	0.403	69.107	[illegible]	[illegible]
33	915	0.257	34	0.008	0.397	69.504	[illegible]	[illegible]
34	[illegible]	[illegible]	21	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
35	1172	0.221	17	[illegible]	0.341	70.314	[illegible]	[illegible]
36	846	0.208	32	0.007	[illegible]	[illegible]	[illegible]	[illegible]
37	436	0.209	25	0.008	0.300	70.944	[illegible]	[illegible]
38	1047	0.196	7	[illegible]	0.302	71.045	0.137	[illegible]
39	1830	0.189	33	[illegible]	[illegible]	71.537	[illegible]	[illegible]
40	151	0.182	12	0.015	[illegible]	71.817	[illegible]	[illegible]
41	104	0.178	19	0.009	[illegible]	[illegible]	[illegible]	[illegible]
42	844	0.165	16	0.010	0.255	[illegible]	[illegible]	[illegible]
43	731	0.164	19	0.009	0.254	[illegible]	0.371	[illegible]
44	1282	0.163	14	0.012	0.251	[illegible]	0.274	[illegible]
45	865	0.161	14	0.012	0.249	73.008	0.274	[illegible]
46	804	0.159	17	0.009	0.245	73.253	[illegible]	[illegible]
47	[illegible]	0.152	9	0.017	0.234	73.567	0.176	[illegible]
48	55	0.149	18	0.008	0.223	73.790	[illegible]	[illegible]
49	814	0.144	19	[illegible]	0.221	74.012	0.371	[illegible]
50	136	0.140	4	0.035	0.216	74.228	[illegible]	[illegible]
51	32	0.133	12	0.011	0.213	74.440	[illegible]	[illegible]
52	1197	0.130	1	0.130	0.200	74.649	[illegible]	[illegible]
53	1826	0.135	29	0.005	0.208	74.657	0.567	[illegible]
54	81	0.130	11	0.012	[illegible]	[illegible]	[illegible]	[illegible]
55	942	0.127	6	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
56	094	0.127	9	0.014	0.196	[illegible]	[illegible]	[illegible]
57	1090	0.114	16	0.007	0.175	[illegible]	[illegible]	[illegible]
58	300	0.107	17	[illegible]	0.168	75.794	[illegible]	[illegible]
59	011	0.106	3	[illegible]	0.163	[illegible]	[illegible]	[illegible]
60	66	0.108	19	[illegible]	[illegible]	76.120	[illegible]	[illegible]
61	1460	0.105	4	[illegible]	0.161	[illegible]	[illegible]	[illegible]
62	060	0.104	15	0.007	0.161	[illegible]	[illegible]	[illegible]
63	963	0.103	12	0.009	0.160	[illegible]	[illegible]	[illegible]
64	[illegible]	0.101	1	0.101	[illegible]	76.757	[illegible]	[illegible]
65	912	[illegible]	8	0.012	0.151	[illegible]	[illegible]	[illegible]
66	741	[illegible]	3	0.033	0.151	77.[illegible]	[illegible]	[illegible]
67	18	[illegible]	2	0.049	0.151	77.210	[illegible]	[illegible]
68	1044	0.096	1	0.096	0.149	77.[illegible]	[illegible]	[illegible]
69	1169	0.096	2	0.048	0.149	77.[illegible]	[illegible]	[illegible]
70	646	0.095	14	0.007	0.147	77.[illegible]	[illegible]	[illegible]
71	950	0.095	12	0.008	[illegible]	77.[illegible]	[illegible]	[illegible]
72	47	0.094	13	0.007	[illegible]	77.[illegible]	[illegible]	[illegible]
73	994	0.092	2	0.046	0.142	[illegible]	[illegible]	[illegible]
74	697	0.092	15	0.006	0.141	[illegible]	[illegible]	[illegible]
75	074	[illegible]	20	0.004	[illegible]	[illegible]	[illegible]	[illegible]
76	1213	[illegible]	12	0.007	[illegible]	[illegible]	[illegible]	[illegible]
77	[illegible]	[illegible]	8	0.011	[illegible]	[illegible]	[illegible]	[illegible]
78	1382	[illegible]	18	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
79	706	0.082	9	[illegible]	[illegible]	[illegible]	0.176	[illegible]
80	092	0.081	7	0.012	[illegible]	[illegible]	0.137	[illegible]
81	[illegible]	0.081	2	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
82	[illegible]	0.081	12	0.007	[illegible]	[illegible]	[illegible]	[illegible]
83	[illegible]	0.080	20	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
84	[illegible]	[illegible]	1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
85	[illegible]	0.078	19	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
86	1271	0.075	3	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
87	[illegible]	0.072	4	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
88	[illegible]	0.072	12	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
89	[illegible]	0.072	4	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
90	971	0.071	9	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
91	179	0.070	2	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
92	976	[illegible]	7	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
93	1062	[illegible]	4	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
94	[illegible]	[illegible]	3	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
95	[illegible]	[illegible]	7	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
96	[illegible]	0.067	10	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
97	72	0.067	9	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
98	[illegible]	[illegible]	3	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
99	[illegible]	[illegible]	3	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
100	[illegible]	[illegible]	14	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
101	[illegible]	[illegible]	2	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
102	[illegible]	[illegible]	10	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
103	317	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
104	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
105	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

(Continued)

*Cumulative total.
**Represents the total area occupied by all of the occurrences (patches) of the indicated terrain unit.
†Represents the total number of occurrences (patches) of the indicated terrain unit.

1 of 16 Sheets

Table B3 (Continued)

ITEM NO.	TERRAIN UNIT	TOTAL AREA SQ.MI.	NO. OF OCCUR	MEAN AREA SQ.MI.	AREA <<<<<< %	>>>>>> $ %	OCCURRENCES <<<<<< %	>>>>>> $ %
106	658	.061	7	0.009	0.094	81.797	0.137	55.247
107	1085	.061	9	0.007	0.094	81.892	0.176	55.423
108	1017	.061	1	0.061	0.093	81.985	0.020	55.443
109	78	.059	5	0.012	0.091	82.076	0.098	55.540
110	1464	.059	1	0.059	0.091	82.167	0.020	55.560
111	196	.059	1	0.059	0.091	82.257	0.020	55.579
112	419	.058	3	0.019	0.090	82.347	0.059	55.638
113	496	.058	3	0.019	0.090	82.437	0.059	55.697
114	816	.058	6	0.010	0.089	82.526	0.117	55.814
115	26	.058	10	0.006	0.089	82.615	0.195	56.009
116	1477	.057	5	0.011	0.088	82.703	0.098	56.107
117	1193	.056	3	0.019	0.086	82.789	0.059	56.166
118	1	.055	2	0.027	0.085	82.873	0.039	56.205
119	919	.053	4	0.013	0.081	82.954	0.078	56.283
120	381	.052	3	0.017	0.080	83.034	0.059	56.342
121	1457	.051	10	0.005	0.079	83.113	0.195	56.537
122	1412	.049	7	0.007	0.076	83.190	0.137	56.674
123	133	.049	2	0.025	0.076	83.266	0.039	56.713
124	792	.049	2	0.025	0.076	83.341	0.039	56.752
125	126	.049	5	0.010	0.075	83.416	0.098	56.850
126	528	.047	4	0.012	0.073	83.490	0.078	56.928
127	1161	.047	1	0.047	0.072	83.562	0.020	56.947
128	476	.046	2	0.023	0.071	83.633	0.039	56.987
129	111	.046	4	0.011	0.070	83.703	0.078	57.065
130	439	.045	4	0.011	0.070	83.772	0.078	57.143
131	63	.045	3	0.015	0.070	83.842	0.059	57.201
132	37	.044	6	0.007	0.068	83.911	0.117	57.319
133	39	.044	1	0.044	0.068	83.979	0.020	57.338
134	1105	.044	7	0.006	0.068	84.048	0.137	57.475
135	447	.044	7	0.006	0.067	84.115	0.137	57.612
136	1069	.044	2	0.022	0.067	84.182	0.039	57.651
137	375	.043	11	0.004	0.066	84.248	0.215	57.866
138	1403	.043	5	0.009	0.066	84.314	0.098	57.964
139	966	.042	4	0.011	0.065	84.380	0.078	58.042
140	52	.042	4	0.011	0.065	84.445	0.078	58.120
141	547	.042	3	0.014	0.064	84.509	0.059	58.179
142	943	.041	2	0.021	0.064	84.573	0.039	58.218
143	778	.041	4	0.010	0.063	84.636	0.078	58.296
144	530	.041	3	0.014	0.063	84.698	0.059	58.355
145	568	.040	8	0.005	0.062	84.760	0.156	58.511
146	1148	.040	2	0.020	0.061	84.822	0.039	58.550
147	267	.039	1	0.039	0.061	84.882	0.020	58.569
148	1052	.039	5	0.008	0.060	84.942	0.098	58.667
149	71	.038	7	0.005	0.059	85.001	0.137	58.804
150	588	.038	5	0.008	0.059	85.060	0.098	58.902
151	783	.038	5	0.008	0.059	85.119	0.098	58.999
152	1002	.038	1	0.038	0.059	85.178	0.020	59.019
153	213	.038	2	0.019	0.059	85.237	0.039	59.058
154	453	.038	2	0.019	0.058	85.295	0.039	59.097
155	743	.037	2	0.019	0.057	85.352	0.039	59.136
156	973	.037	2	0.018	0.057	85.409	0.039	59.175
157	1095	.037	6	0.006	0.057	85.465	0.117	59.293
158	343	.036	5	0.007	0.056	85.521	0.098	59.390
159	1355	.036	1	0.036	0.055	85.576	0.020	59.410
160	842	.036	2	0.018	0.055	85.631	0.039	59.449
161	[illegible]	.036	2	0.018	0.055	85.686	0.039	59.488
162	496	.035	7	0.005	0.054	85.740	0.137	59.625
163	135	.035	9	0.004	0.054	85.794	0.176	59.801
164	456	.035	2	0.017	0.054	85.847	0.039	59.840
165	425	.034	4	0.009	0.053	85.900	0.078	59.918
166	917	.034	1	0.034	0.053	85.953	0.020	59.937
167	146	.034	6	0.006	0.053	86.006	0.117	60.055
168	458	.034	8	0.004	0.052	86.059	0.156	60.211
169	1417	.034	9	0.004	0.052	86.111	0.176	60.387
170	841	.033	9	0.004	0.051	86.162	0.176	60.563
171	424	.033	4	0.008	0.051	86.213	0.078	60.641
172	915	.033	2	0.016	0.051	86.264	0.039	60.680
173	996	.033	2	0.016	0.051	86.314	0.039	60.719
174	96	.033	6	0.005	0.051	86.365	0.117	60.836
175	16	.032	3	0.011	0.050	86.415	0.059	60.895
176	826	.032	5	0.006	0.049	86.464	0.098	60.993
177	[illegible]	.031	3	0.010	0.049	86.512	0.059	61.051
178	1348	.031	5	0.006	0.048	86.560	0.098	61.149
179	55	.031	1	0.031	0.048	86.608	0.020	61.169
180	533	.031	7	0.004	0.048	86.655	0.137	61.305
181	511	.031	5	0.006	0.048	86.703	0.098	61.403
182	1188	.031	8	0.004	0.047	86.750	0.156	61.560
183	314	.031	5	0.006	0.047	86.797	0.098	61.657
184	1299	.031	5	0.006	0.047	86.844	0.098	61.755
185	679	.030	6	0.005	0.046	86.891	0.117	61.872
186	317	.030	4	0.008	0.046	86.937	0.078	61.950
187	882	.030	13	0.002	0.046	86.984	0.254	62.204
188	999	.030	5	0.006	0.046	87.029	0.098	62.302
189	855	.030	1	0.030	0.046	87.075	0.020	62.322
190	135	.030	5	0.006	0.046	87.121	0.098	62.419
191	814	.029	1	0.029	0.045	87.166	0.020	62.439
192	564	.029	1	0.029	0.045	87.212	0.020	62.458
193	678	.029	3	0.010	0.045	87.256	0.059	62.517
194	726	.029	2	0.014	0.045	87.301	0.039	62.556
195	1114	.029	8	0.004	0.045	87.346	0.156	62.713
196	76	.029	6	0.005	0.044	87.390	0.117	62.830
197	248	.029	4	0.007	0.044	87.434	0.078	62.908
198	1167	.029	1	0.029	0.044	87.478	0.020	62.927
199	712	.028	5	0.006	0.043	87.521	0.098	63.025
200	1627	.028	5	0.006	0.043	87.564	0.098	63.123
201	1171	.027	1	0.027	0.042	87.606	0.020	63.142
202	437	.027	3	0.009	0.042	87.647	0.059	63.201
203	1498	.027	6	0.005	0.042	87.689	0.117	63.318
204	55	.027	4	0.007	0.042	87.731	0.078	63.397
205	723	.027	2	0.013	0.041	87.772	0.039	63.436
206	14	.027	5	0.005	0.041	87.813	0.098	63.533
207	541	.027	3	0.009	0.041	87.854	0.059	63.592
208	889	.026	1	0.026	0.040	87.895	0.020	63.611
209	214	.026	4	0.007	0.040	87.935	0.078	63.690
210	624	.026	2	0.013	0.040	87.976	0.039	63.729
211	1468	.026	3	0.009	0.040	88.016	0.059	63.787
212	1223	.026	1	0.026	0.040	88.056	0.020	63.807
213	1101	.026	6	0.004	0.040	88.096	0.117	63.924

(Continued)

(2 of 14 sheets)

Table B3 (Continued)

ITEM NO.	TERRAIN UNIT	TOTAL AREA SQ.MI.	NO. OF OCCUR	MEAN AREA SQ.MI.	AREA <<<<<< %	>>>>>> Σ %	OCCURRENCES <<<<<< %	>>>>>> Σ %
214	1087	0.026	5	0.005	0.040	88.136	0.098	64.022
215	398	0.026	5	0.005	0.040	88.176	0.098	64.120
216	520	0.026	4	0.006	0.040	88.216	0.078	64.198
217	791	0.025	4	0.006	0.039	88.255	0.078	64.276
218	93	0.025	7	0.004	0.039	88.295	0.137	64.413
219	877	0.025	4	0.006	0.039	88.334	0.078	64.491
220	789	0.025	1	0.025	0.039	88.373	0.020	64.510
221	149	0.025	4	0.006	0.039	88.411	0.078	64.589
222	302	0.025	3	0.008	0.039	88.450	0.059	64.647
223	1094	0.025	4	0.006	0.039	88.489	0.078	64.725
224	964	0.025	2	0.013	0.039	88.527	0.039	64.765
225	293	0.025	6	0.004	0.039	88.566	0.117	64.882
226	27	0.025	1	0.025	0.039	88.605	0.020	64.901
227	443	0.025	1	0.025	0.038	88.643	0.020	64.921
228	127	0.025	4	0.006	0.038	88.681	0.078	64.999
229	139[illegible]	0.025	3	0.008	0.038	88.719	0.059	65.058
230	793	0.024	4	0.006	0.038	88.757	0.078	65.136
231	435	0.024	2	0.012	0.038	88.794	0.039	65.175
232	59[illegible]	0.024	3	0.008	0.037	88.831	0.059	65.234
233	23	0.024	3	0.008	0.037	88.868	0.059	65.292
234	1088	0.024	1	0.024	0.037	88.905	0.020	65.312
235	239	0.024	3	0.008	0.036	88.941	0.059	65.370
236	224	0.024	3	0.008	0.036	88.978	0.059	65.429
237	1274	0.024	1	0.024	0.036	89.014	0.020	65.449
238	1277	0.024	2	0.012	0.036	89.050	0.039	65.488
239	3	0.024	5	0.005	0.036	89.087	0.098	65.585
240	73[illegible]	0.023	1	0.023	0.036	89.122	0.020	65.605
241	416	0.023	3	0.008	0.035	89.157	0.059	65.663
242	56	0.023	2	0.011	0.035	89.193	0.039	65.703
243	932	0.023	4	0.006	0.035	89.228	0.078	65.781
244	406	0.022	2	0.011	0.035	89.262	0.039	65.820
245	237	0.022	3	0.007	0.035	89.297	0.059	65.878
246	25	0.022	2	0.011	0.034	89.331	0.039	65.918
247	99	0.022	4	0.006	0.034	89.365	0.078	65.996
248	86	0.022	4	0.006	0.034	89.399	0.078	66.074
249	7[illegible]	0.022	4	0.006	0.034	89.433	0.078	66.152
250	597	0.022	4	0.006	0.034	89.466	0.078	66.230
251	481	0.022	3	0.007	0.033	89.500	0.059	66.289
252	1008	0.022	2	0.011	0.033	89.533	0.039	66.328
253	83	0.022	2	0.011	0.033	89.566	0.039	66.367
254	939	0.022	2	0.011	0.033	89.600	0.039	66.406
255	847	0.021	5	0.004	0.033	89.633	0.098	66.504
256	1177	0.021	5	0.004	0.033	89.665	0.098	66.602
257	1174	0.021	4	0.005	0.033	89.698	0.078	66.680
258	1144	0.021	5	0.004	0.033	89.731	0.098	66.777
259	1263	0.021	3	0.007	0.033	89.764	0.059	66.836
260	1354	0.021	2	0.010	0.032	89.796	0.039	66.875
261	947	0.021	1	0.021	0.032	89.828	0.020	66.895
262	1365	0.020	1	0.020	0.032	89.859	0.020	66.914
263	1392	0.020	5	0.004	0.032	89.891	0.098	67.012
264	144	0.020	8	0.003	0.032	89.923	0.156	67.168
265	566	0.020	2	0.010	0.032	89.954	0.039	67.207
266	1204	0.020	3	0.007	0.032	89.986	0.059	67.266
267	598	0.020	5	0.004	0.031	90.017	0.098	67.364

ITEM NO.	TERRAIN UNIT	TOTAL AREA SQ.MI.	NO. OF OCCUR	MEAN AREA SQ.MI.	AREA <<<<<< %	>>>>>> Σ %	OCCURRENCES <<<<<< %	>>>>>> Σ %
268	5[illegible]5	0.020	5	0.004	0.031	90.048	0.098	67.461
269	345	0.020	1	0.020	0.031	90.079	0.020	67.481
270	865	0.020	1	0.020	0.031	90.109	0.020	67.500
271	772	0.020	3	0.007	0.031	90.140	0.059	67.559
272	582	0.020	7	0.003	0.031	90.171	0.137	67.696
273	393	0.020	3	0.007	0.031	90.202	0.059	67.755
274	833	0.020	3	0.007	0.030	90.233	0.059	67.813
275	299	0.020	3	0.007	0.030	90.263	0.059	67.872
276	864	0.020	2	0.010	0.030	90.293	0.039	67.911
277	342	0.020	4	0.005	0.030	90.324	0.078	67.989
278	246	0.020	4	0.005	0.030	90.354	0.078	68.067
279	133	0.020	2	0.010	0.030	90.385	0.039	68.106
280	761	0.020	4	0.005	0.030	90.415	0.078	68.184
281	464	0.019	2	0.010	0.030	90.445	0.039	68.224
282	894	0.019	2	0.010	0.030	90.474	0.039	68.263
283	377	0.019	1	0.019	0.030	90.504	0.020	68.282
284	1369	0.019	1	0.019	0.030	90.534	0.020	68.302
285	921	0.019	4	0.005	0.030	90.564	0.078	68.380
286	1255	0.019	2	0.009	0.029	90.593	0.039	68.419
287	33[illegible]	0.019	1	0.019	0.029	90.622	0.020	68.439
288	6[illegible]	0.019	1	0.019	0.029	90.651	0.020	68.458
289	232	0.019	1	0.019	0.029	90.680	0.020	68.478
290	478	0.019	1	0.019	0.029	90.709	0.020	68.497
291	773	0.019	3	0.006	0.029	90.738	0.059	68.556
292	414	0.019	1	0.019	0.029	90.766	0.020	68.575
293	1251	0.019	4	0.005	0.029	90.795	0.078	68.654
294	307	0.019	2	0.009	0.029	90.823	0.039	68.693
295	866	0.019	2	0.009	0.029	90.852	0.039	68.732
296	117[illegible]	0.019	2	0.009	0.029	90.881	0.039	68.771
297	832	0.019	4	0.005	0.029	90.909	0.078	68.849
298	1402	0.019	2	0.009	0.029	90.938	0.039	68.888
299	389	0.019	2	0.009	0.029	90.966	0.039	68.927
300	736	0.018	2	0.009	0.028	90.994	0.039	68.966
301	6	0.018	2	0.009	0.028	91.022	0.039	69.005
302	577	0.018	6	0.003	0.028	91.050	0.117	69.123
303	8	0.018	2	0.009	0.028	91.078	0.039	69.162
304	1335	0.018	5	0.004	0.027	91.106	0.098	69.259
305	1065	0.018	1	0.018	0.027	91.133	0.020	69.279
306	182	0.018	4	0.004	0.027	91.160	0.078	69.357
307	1146	0.018	2	0.009	0.027	91.188	0.039	69.396
308	944	0.018	1	0.018	0.027	91.215	0.020	69.416
309	2	0.018	6	0.003	0.027	91.243	0.117	69.533
310	[illegible]	0.018	3	0.006	0.027	91.270	0.059	69.592
311	137	0.017	1	0.017	0.027	91.297	0.020	69.611
312	221	0.017	3	0.006	0.027	91.324	0.059	69.670
313	1211	0.017	5	0.003	0.027	91.350	0.098	69.767
314	1071	0.017	1	0.017	0.027	91.377	0.020	69.787
315	835	0.017	3	0.006	0.027	91.404	0.059	69.846
316	1096	0.017	2	0.009	0.027	91.431	0.039	69.885
317	344	0.017	3	0.006	0.026	91.457	0.059	69.943
318	341	0.017	2	0.008	0.026	91.483	0.039	69.982
319	979	0.017	2	0.008	0.026	91.509	0.039	70.021
320	48	0.017	4	0.004	0.026	91.535	0.078	70.100
321	[illegible]35	0.017	6	0.003	0.026	91.561	0.117	70.217

(Continued)

(3 of 16 sheets)

Table B3 (Continued)

ITEM NO.	TERRAIN UNIT	TOTAL AREA SQ.MI.	NO. OF OCCUR	MEAN AREA SQ.MI.	AREA %	AREA Σ %	OCCURRENCES %	OCCURRENCES Σ %
322	1118	0.017	5	0.003	0.026	91.586	0.098	70.315
323	1119	0.017	6	0.003	0.026	91.612	0.117	70.432
324	945	0.017	2	0.008	0.026	91.637	0.039	70.471
325	1131	0.017	2	0.008	0.026	91.663	0.039	70.510
326	1498	0.017	1	0.017	0.026	91.689	0.020	70.530
327	80[illegible]	0.017	1	0.017	0.026	91.714	0.020	70.549
328	407	0.017	2	0.008	0.026	91.740	0.039	70.588
329	806	0.016	1	0.016	0.025	91.765	0.020	70.608
330	41	0.016	4	0.004	0.025	91.790	0.078	70.686
331	929	0.016	4	0.004	0.025	91.815	0.078	70.764
332	1435	0.016	1	0.016	0.025	91.840	0.020	70.784
333	473	0.016	1	0.016	0.024	91.864	0.020	70.803
334	1431	0.016	3	0.005	0.024	91.889	0.059	70.862
335	1466	0.016	7	0.002	0.024	91.913	0.137	70.999
336	1257	0.016	4	0.004	0.024	91.937	0.078	71.077
337	883	0.016	2	0.008	0.024	91.962	0.039	71.116
338	1510	0.016	1	0.016	0.024	91.986	0.020	71.135
339	641	0.015	3	0.005	0.024	92.010	0.059	71.194
340	57	0.015	1	0.015	0.024	92.034	0.020	71.214
341	524	0.015	5	0.003	0.024	92.058	0.098	71.311
342	1400	0.015	3	0.005	0.024	92.082	0.059	71.370
343	1339	0.015	1	0.015	0.024	92.105	0.020	71.389
344	698	0.015	1	0.015	0.024	92.129	0.020	71.409
345	1166	0.015	1	0.015	0.023	92.152	0.020	71.429
346	882	0.015	2	0.008	0.023	92.176	0.039	71.468
347	1212	0.015	8	0.002	0.023	92.199	0.156	71.624
348	1033	0.015	1	0.015	0.023	92.222	0.020	71.644
349	38	0.015	4	0.004	0.023	92.245	0.078	71.722
350	1123	0.015	2	0.007	0.023	92.268	0.039	71.761
351	38[illegible]	0.015	7	0.002	0.023	92.291	0.137	71.898
352	467	0.015	4	0.004	0.023	92.313	0.078	71.976
353	333	0.015	2	0.007	0.023	92.336	0.039	72.015
354	250	0.015	2	0.007	0.023	92.358	0.039	72.054
355	1481	0.015	2	0.007	0.023	92.381	0.039	72.093
356	1320	0.015	4	0.004	0.023	92.404	0.078	72.171
357	625	0.015	3	0.005	0.023	92.426	0.059	72.230
358	1194	0.015	1	0.015	0.023	92.449	0.020	72.249
359	995	0.015	4	0.004	0.023	92.472	0.078	72.328
360	1261	0.015	6	0.002	0.023	92.494	0.117	72.445
361	1099	0.015	3	0.005	0.023	92.517	0.059	72.503
362	200	0.015	2	0.007	0.023	92.539	0.039	72.543
363	97	0.015	2	0.007	0.023	92.562	0.039	72.582
364	310	0.015	5	0.003	0.023	92.585	0.098	72.679
365	777	0.015	4	0.004	0.023	92.607	0.078	72.757
366	138	0.015	2	0.007	0.023	92.630	0.039	72.797
367	706	0.014	3	0.005	0.022	92.652	0.059	72.855
368	396	0.014	5	0.003	0.022	92.674	0.098	72.953
369	649	0.014	1	0.014	0.021	92.695	0.020	72.972
370	927	0.014	2	0.007	0.021	92.717	0.039	73.012
371	911	0.014	4	0.003	0.021	92.738	0.078	73.090
372	1264	0.014	5	0.003	0.021	92.760	0.098	73.187
373	765	0.014	6	0.002	0.021	92.781	0.117	73.305
374	80	0.014	2	0.007	0.021	92.803	0.039	73.344
375	968	0.014	1	0.014	0.021	92.824	0.020	73.363
376	137[illegible]	0.014	1	0.014	0.021	92.845	0.020	73.383
377	795	0.014	1	0.014	0.021	92.866	0.020	73.402
378	105	0.014	2	0.007	0.021	92.887	0.039	73.441
379	295	0.014	3	0.005	0.021	92.907	0.059	73.500
380	1155	0.013	3	0.004	0.020	92.928	0.059	73.559
381	863	0.013	1	0.013	0.020	92.948	0.020	73.578
382	162	0.013	1	0.013	0.020	92.968	0.020	73.598
383	387	0.013	3	0.004	0.020	92.988	0.059	73.656
384	573	0.013	2	0.007	0.020	93.009	0.039	73.696
385	45	0.013	2	0.007	0.020	93.029	0.039	73.735
386	1145	0.013	2	0.007	0.020	93.049	0.039	73.774
387	1106	0.013	1	0.013	0.020	93.069	0.020	73.793
388	697	0.013	1	0.013	0.020	93.090	0.020	73.813
389	116	0.013	1	0.013	0.020	93.110	0.020	73.832
390	934	0.013	1	0.013	0.020	93.129	0.020	73.852
391	1489	0.013	3	0.004	0.020	93.149	0.059	73.910
392	44	0.013	1	0.013	0.020	93.169	0.020	73.930
393	1162	0.013	2	0.006	0.020	93.188	0.039	73.969
394	928	0.013	2	0.006	0.020	93.208	0.039	74.008
395	1216	0.013	4	0.003	0.020	93.228	0.078	74.086
396	1256	0.013	1	0.013	0.020	93.247	0.020	74.106
397	118	0.012	4	0.003	0.019	93.266	0.078	74.184
398	937	0.012	1	0.012	0.019	93.285	0.020	74.204
399	1020	0.012	3	0.004	0.019	93.305	0.059	74.262
400	1134	0.012	2	0.006	0.019	93.324	0.039	74.301
401	817	0.012	2	0.006	0.019	93.343	0.039	74.340
402	1034	0.012	1	0.012	0.019	93.362	0.020	74.360
403	627	0.012	1	0.012	0.018	93.380	0.020	74.380
404	113	0.012	1	0.012	0.018	93.399	0.020	74.399
405	653	0.012	3	0.004	0.018	93.417	0.059	74.458
406	369	0.012	1	0.012	0.018	93.436	0.020	74.477
407	1122	0.012	2	0.006	0.018	93.454	0.039	74.516
408	1019	0.012	3	0.004	0.018	93.472	0.059	74.575
409	445	0.012	3	0.004	0.018	93.491	0.059	74.634
410	1021	0.012	2	0.006	0.018	93.509	0.039	74.673
411	1372	0.012	1	0.012	0.018	93.528	0.020	74.692
412	746	0.012	2	0.006	0.018	93.546	0.039	74.731
413	298	0.012	5	0.002	0.018	93.565	0.098	74.829
414	1000	0.012	2	0.006	0.018	93.583	0.039	74.868
415	1270	0.012	2	0.006	0.018	93.601	0.039	74.907
416	184	0.012	2	0.006	0.018	93.619	0.039	74.946
417	548	0.012	2	0.006	0.018	93.637	0.039	74.985
418	813	0.012	2	0.006	0.018	93.655	0.039	75.024
419	815	0.012	2	0.006	0.018	93.672	0.039	75.064
420	981	0.012	3	0.004	0.018	93.690	0.059	75.122
421	967	0.012	3	0.004	0.018	93.708	0.059	75.181
422	16	0.012	2	0.006	0.018	93.726	0.039	75.220
423	1214	0.011	2	0.006	0.017	93.743	0.039	75.259
424	106	0.011	2	0.006	0.017	93.761	0.039	75.298
425	1192	0.011	2	0.006	0.017	93.778	0.039	75.337
426	245	0.011	3	0.004	0.017	93.795	0.059	75.396
427	229	0.011	1	0.011	0.017	93.812	0.020	75.415
428	861	0.011	1	0.011	0.017	93.830	0.020	75.435
429	1321	0.011	4	0.003	0.017	93.847	0.078	75.513

(Continued)

(4 of 14 sheets)

Table B3 (Continued)

ITEM NO.	TERRAIN UNIT	TOTAL AREA SQ.MI.	NO. OF OCCUR	MEAN AREA SQ.MI.	AREA <<<<<< >>>>>> %	AREA <<<<<< >>>>>> S %	OCCURRENCES <<<<<< >>>>>> %	OCCURRENCES <<<<<< >>>>>> S %
430	542	.011	3	0.004	0.017	93.864	0.059	75.572
431	[illegible]	.011	1	0.011	0.017	93.881	0.020	75.591
432	236	.011	4	0.003	0.017	93.899	0.078	75.669
433	567	.011	3	0.004	0.017	93.916	0.059	75.728
434	176	.011	1	0.011	0.017	93.933	0.020	75.748
435	981	.011	2	0.005	0.017	93.950	0.039	75.787
436	436	.011	3	0.004	0.017	93.967	0.059	75.845
437	553	.011	5	0.002	0.017	93.983	0.098	75.943
438	132	.011	1	0.011	0.017	94.000	0.020	75.962
439	559	.011	2	0.005	0.017	94.017	0.039	76.002
440	865	.011	1	0.011	0.017	94.033	0.020	76.021
441	[illegible]	.011	5	0.002	0.017	94.050	0.098	76.119
442	1084	.011	1	0.011	0.017	94.067	0.020	76.138
443	[illegible]	.010	3	0.003	0.016	94.083	0.059	76.197
444	454	.010	3	0.003	0.016	94.099	0.059	76.256
445	[illegible]	.010	2	0.005	0.016	94.115	0.039	76.295
446	[illegible]	.010	2	0.005	0.016	94.131	0.039	76.334
447	[illegible]	.010	2	0.005	0.016	94.147	0.039	76.373
448	[illegible]	.010	5	0.002	0.016	94.163	0.098	76.471
449	[illegible]	.010	2	0.005	0.016	94.179	0.039	76.510
450	269	.010	1	0.010	0.016	94.195	0.020	76.529
451	358	.010	1	0.010	0.016	94.211	0.020	76.549
452	[illegible]	.010	4	0.003	0.016	94.227	0.078	76.627
453	131	.010	6	0.002	0.016	94.243	0.117	76.744
454	274	.010	1	0.010	0.016	94.260	0.020	76.764
455	384	.010	2	0.005	0.016	94.276	0.039	76.803
456	88	.010	2	0.005	0.016	94.292	0.039	76.842
457	234	.010	4	0.003	0.016	94.308	0.078	76.920
458	282	.010	1	0.010	0.015	94.323	0.020	76.940
459	1165	.010	1	0.010	0.015	94.339	0.020	76.959
460	119	.010	2	0.005	0.015	94.354	0.039	76.998
461	[illegible]	.010	1	0.010	0.015	94.370	0.020	77.018
462	[illegible]	.010	1	0.010	0.015	94.385	0.020	77.037
463	952	.010	1	0.010	0.015	94.401	0.020	77.057
464	1126	.010	1	0.010	0.015	94.416	0.020	77.076
465	824	.010	3	0.003	0.015	94.432	0.059	77.135
466	969	.010	1	0.010	0.015	94.447	0.020	77.155
467	175	.010	1	0.010	0.015	94.463	0.020	77.174
468	[illegible]	.010	3	0.003	0.015	94.477	0.059	77.233
469	[illegible]	.010	2	0.005	0.015	94.492	0.039	77.272
470	1076	.010	3	0.003	0.015	94.507	0.059	77.330
471	66	.010	3	0.003	0.015	94.522	0.059	77.389
472	[illegible]	.010	1	0.010	0.015	94.537	0.020	77.409
473	[illegible]	.010	1	0.010	0.015	94.552	0.020	77.428
474	395	.010	5	0.002	0.015	94.567	0.098	77.526
475	257	.010	2	0.005	0.015	94.582	0.039	77.565
476	757	.010	2	0.005	0.015	94.597	0.039	77.604
477	1296	.010	1	0.010	0.015	94.611	0.020	77.624
478	218	.010	1	0.010	0.015	94.626	0.020	77.643
479	1376	.010	2	0.005	0.015	94.641	0.039	77.682
480	86	.009	1	0.009	0.014	94.656	0.020	77.702
481	[illegible]	.009	2	0.005	0.014	94.670	0.039	77.741
482	227	.009	1	0.009	0.014	94.684	0.020	77.760
483	837	.009	2	0.005	0.014	94.698	0.039	77.799
484	384	.009	3	0.003	0.014	94.713	0.059	77.858
485	786	.009	1	0.009	0.014	94.727	0.020	77.878
486	153	.009	1	0.009	0.014	94.741	0.020	77.897
487	367	.009	2	0.005	0.014	94.756	0.039	77.936
488	522	.009	2	0.005	0.014	94.770	0.039	77.975
489	523	.009	2	0.005	0.014	94.784	0.039	78.014
490	879	.009	1	0.009	0.014	94.798	0.020	78.034
491	1242	.009	3	0.003	0.014	94.813	0.059	78.093
492	[illegible]	.009	1	0.009	0.014	94.827	0.020	78.112
493	[illegible]	.009	2	0.005	0.014	94.841	0.039	78.151
494	71	.009	2	0.004	0.014	94.855	0.039	78.190
495	1336	.009	1	0.009	0.014	94.869	0.020	78.210
496	271	.009	2	0.004	0.014	94.882	0.039	78.249
497	1135	.009	1	0.009	0.014	94.896	0.020	78.269
498	[illegible]	.009	3	0.003	0.014	94.910	0.059	78.327
499	744	.009	5	0.002	0.014	94.923	0.098	78.425
500	1136	.009	3	0.003	0.014	94.937	0.059	78.483
501	721	.009	1	0.009	0.014	94.951	0.020	78.503
502	426	.009	2	0.004	0.014	94.965	0.039	78.542
503	594	.009	1	0.009	0.014	94.978	0.020	78.562
504	[illegible]	.009	2	0.004	0.014	94.992	0.039	78.601
505	486	.009	1	0.009	0.014	95.006	0.020	78.620
506	124	.009	2	0.004	0.014	95.019	0.039	78.659
507	769	.009	3	0.003	0.014	95.033	0.059	78.718
508	142	.009	1	0.009	0.014	95.047	0.020	78.738
509	753	.008	3	0.003	0.013	95.060	0.059	78.796
510	346	.008	2	0.004	0.013	95.073	0.039	78.835
511	366	.008	2	0.004	0.013	95.086	0.039	78.874
512	936	.008	1	0.008	0.013	95.099	0.020	78.894
513	46	.008	2	0.004	0.013	95.112	0.039	78.933
514	[illegible]	.008	3	0.003	0.013	95.125	0.059	78.992
515	639	.008	2	0.004	0.013	95.138	0.039	79.031
516	873	.008	2	0.004	0.013	95.151	0.039	79.070
517	874	.008	1	0.008	0.013	95.165	0.020	79.089
518	6	.008	1	0.008	0.013	95.178	0.020	79.109
519	1219	.008	1	0.008	0.013	95.191	0.020	79.128
520	529	.008	2	0.004	0.013	95.204	0.039	79.167
521	1374	.008	1	0.008	0.013	95.217	0.020	79.187
522	927	.008	1	0.008	0.013	95.230	0.020	79.207
523	885	.008	2	0.004	0.013	95.243	0.039	79.246
524	88	.008	1	0.008	0.013	95.256	0.020	79.265
525	278	.008	2	0.004	0.013	95.268	0.039	79.304
526	734	.008	2	0.004	0.013	95.281	0.039	79.343
527	894	.008	1	0.008	0.013	95.293	0.020	79.363
528	[illegible]	.008	2	0.004	0.013	95.306	0.039	79.402
529	[illegible]	.008	1	0.008	0.013	95.318	0.020	79.422
530	[illegible]	.008	3	0.003	0.013	95.331	0.059	79.480
531	1383	.008	1	0.008	0.013	95.343	0.020	79.500
532	[illegible]	.008	1	0.008	0.013	95.356	0.020	79.519
533	771	.008	2	0.004	0.013	95.368	0.039	79.558
534	1389	.008	1	0.008	0.013	95.381	0.020	79.578
535	155	.008	2	0.004	0.013	95.393	0.039	79.617
536	194	.008	1	0.008	0.013	95.406	0.020	79.637
537	826	.008	1	0.008	0.013	95.418	0.020	79.656

(Continued)

(5 of 14 sheets)

Reproduced from best available copy.

Table 33 (Continued)

Item No.	Terrain Unit	Total Area Sq.Mi.	No. of Occur	Mean Area Sq.Mi.	Area <<<<<< %	>>>>>> Σ %	Occurrences <<<<<< %	>>>>>> Σ %
538	1286	0.008	1	0.008	0.013	95.431	0.020	79.676
539	956	0.008	2	0.004	0.013	95.443	0.039	79.715
540	492	0.008	2	0.004	0.013	95.456	0.039	79.754
541	1025	0.008	1	0.008	0.013	95.468	0.020	79.773
542	949	0.008	1	0.008	0.013	95.481	0.020	79.793
543	411	0.008	1	0.008	0.013	95.493	0.020	79.812
544	147	0.008	3	0.003	0.012	95.505	0.059	79.871
545	705	0.008	3	0.003	0.012	95.517	0.059	79.930
546	46	0.008	1	0.008	0.012	95.529	0.020	79.949
547	1125	0.008	2	0.004	0.012	95.541	0.039	79.988
548	976	0.008	2	0.004	0.012	95.553	0.039	80.027
549	319	0.008	1	0.008	0.012	95.565	0.020	80.047
550	715	0.008	2	0.004	0.012	95.577	0.039	80.086
551	323	0.008	2	0.004	0.012	95.589	0.039	80.125
552	1237	0.008	1	0.008	0.012	95.600	0.020	80.145
553	652	0.008	2	0.004	0.012	95.612	0.039	80.184
554	1249	0.008	1	0.008	0.012	95.624	0.020	80.203
555	586	0.008	3	0.003	0.012	95.636	0.059	80.262
556	407	0.008	2	0.004	0.012	95.648	0.039	80.301
557	776	0.008	2	0.004	0.012	95.660	0.039	80.340
558	1014	0.008	3	0.003	0.012	95.672	0.059	80.399
559	503	0.008	1	0.008	0.012	95.684	0.020	80.418
560	422	0.008	2	0.004	0.012	95.696	0.039	80.457
561	1149	0.008	3	0.003	0.012	95.708	0.059	80.516
562	23[illegible]	0.008	1	0.008	0.012	95.720	0.020	80.535
563	1153	0.008	6	0.001	0.012	95.731	0.117	80.653
564	549	0.008	1	0.008	0.012	95.743	0.020	80.672
565	1361	0.008	1	0.008	0.012	95.755	0.020	80.692
566	128	0.008	1	0.008	0.012	95.767	0.020	80.711
567	676	0.008	2	0.004	0.012	95.779	0.039	80.750
568	134[illegible]	0.007	1	0.007	0.011	95.790	0.020	80.770
569	1345	0.007	1	0.007	0.011	95.802	0.020	80.790
570	1230	0.007	1	0.007	0.011	95.813	0.020	80.809
571	129	0.007	1	0.007	0.011	95.824	0.020	80.829
572	982	0.007	1	0.007	0.011	95.836	0.020	80.848
573	303	0.007	1	0.007	0.011	95.847	0.020	80.868
574	916	0.007	1	0.007	0.011	95.858	0.020	80.887
575	1241	0.007	1	0.007	0.011	95.870	0.020	80.907
576	557	0.007	3	0.002	0.011	95.881	0.059	80.965
577	316	0.007	1	0.007	0.011	95.892	0.020	80.985
578	226	0.007	1	0.007	0.011	95.904	0.020	81.004
579	1220	0.007	1	0.007	0.011	95.915	0.020	81.024
580	1253	0.007	2	0.004	0.011	95.926	0.039	81.063
581	1373	0.007	1	0.007	0.011	95.937	0.020	81.083
582	1028	0.007	1	0.007	0.011	95.949	0.020	81.102
583	1284	0.007	2	0.004	0.011	95.960	0.039	81.141
584	1097	0.007	1	0.007	0.011	95.971	0.020	81.161
585	28	0.007	1	0.007	0.011	95.982	0.020	81.180
586	6[illegible]7	0.007	1	0.007	0.011	95.993	0.020	81.200
587	485	0.007	3	0.002	0.011	96.004	0.059	81.259
588	1022	0.007	1	0.007	0.011	96.014	0.020	81.278
589	67	0.007	2	0.003	0.011	96.025	0.039	81.317
590	319	0.007	2	0.003	0.011	96.036	0.039	81.356
591	756	0.007	2	0.003	0.011	96.046	0.039	81.395
592	1182	.007	1	0.007	0.011	96.057	0.020	81.415
593	1279	.007	3	0.002	0.011	96.068	0.059	81.474
594	819	.007	1	0.007	0.011	96.079	0.020	81.493
595	493	.007	1	0.007	0.011	96.089	0.020	81.513
596	241	.007	2	0.003	0.011	96.100	0.039	81.552
597	933	.007	2	0.003	0.011	96.111	0.039	81.591
598	953	.007	1	0.007	0.011	96.121	0.020	81.610
599	197	.007	1	0.007	0.011	96.132	0.020	81.630
600	35	.007	1	0.007	0.010	96.142	0.020	81.649
601	272	.007	2	0.003	0.010	96.152	0.039	81.688
602	1050	.007	2	0.003	0.010	96.163	0.039	81.728
603	145	.007	1	0.007	0.010	96.173	0.020	81.747
604	918	.007	1	0.007	0.010	96.183	0.020	81.767
605	767	.007	1	0.007	0.010	96.193	0.020	81.786
606	98	.007	1	0.007	0.010	96.203	0.020	81.806
607	716	.007	2	0.003	0.010	96.213	0.039	81.845
608	1068	.007	1	0.007	0.010	96.223	0.020	81.864
609	1385	.007	2	0.003	0.010	96.233	0.039	81.903
610	871	.007	2	0.003	0.010	96.243	0.039	81.943
611	851	.007	2	0.003	0.010	96.254	0.039	81.982
612	91	.007	1	0.007	0.010	96.264	0.020	82.001
613	899	.007	2	0.003	0.010	96.274	0.039	82.040
614	991	.007	3	0.002	0.010	96.284	0.059	82.099
615	821	.007	1	0.007	0.010	96.294	0.020	82.118
616	12[illegible]	.007	2	0.003	0.010	96.304	0.039	82.158
617	822	.007	1	0.007	0.010	96.314	0.020	82.177
618	1042	.007	1	0.007	0.010	96.324	0.020	82.197
619	19	.007	1	0.007	0.010	96.335	0.020	82.216
620	323	.007	2	0.003	0.010	96.345	0.039	82.255
621	1256	.007	1	0.007	0.010	96.355	0.020	82.275
622	1407	.007	2	0.003	0.010	96.365	0.039	82.314
623	1225	.006	2	0.003	0.010	96.374	0.039	82.353
624	517	.006	2	0.003	0.010	96.384	0.039	82.392
625	1229	.006	3	0.002	0.010	96.394	0.059	82.451
626	84	.006	2	0.003	0.010	96.403	0.039	82.490
627	310	.006	2	0.003	0.010	96.413	0.039	82.529
628	67[illegible]	.006	2	0.003	0.010	96.422	0.039	82.568
629	896	.006	1	0.006	0.010	96.432	0.020	82.587
630	1292	.006	2	0.003	0.010	96.441	0.039	82.627
631	1003	.006	1	0.006	0.010	96.451	0.020	82.646
632	1053	.006	2	0.003	0.010	96.460	0.039	82.685
633	10[illegible]4	.006	1	0.006	0.010	96.470	0.020	82.705
634	7	.006	1	0.006	0.010	96.479	0.020	82.724
635	811	.006	1	0.006	0.010	96.489	0.020	82.744
636	136	.006	2	0.003	0.010	96.498	0.039	82.783
637	1254	.006	2	0.003	0.010	96.508	0.039	82.822
638	378	.006	1	0.006	0.010	96.517	0.020	82.842
639	11[illegible]3	.006	2	0.003	0.010	96.527	0.039	82.881
640	725	.006	1	0.006	0.010	96.536	0.020	82.900
641	1337	.006	1	0.006	0.010	96.546	0.020	82.920
642	428	.006	2	0.003	0.010	96.555	0.039	82.959
643	433	.006	1	0.006	0.010	96.565	0.020	82.978
644	1114	.006	3	0.002	0.010	96.575	0.059	83.037
645	986	.006	1	0.006	0.010	96.584	0.020	83.056

(Continued)

Table B3 (Continued)

ITEM No.	TERRAIN UNIT	TOTAL AREA SQ.MI.	NO. OF OCCUR	MEAN AREA SQ.MI.	AREA %	AREA Σ %	OCCURRENCES %	OCCURRENCES Σ %
646	75	0.006	1	0.006	0.010	96.594	0.020	83.076
647	286	0.006	1	0.006	0.010	96.603	0.020	83.096
648	829	0.006	1	0.006	0.010	96.613	0.020	83.115
649	833	0.006	1	0.006	0.010	96.622	0.020	83.135
650	583	0.006	2	0.003	0.010	96.632	0.039	83.174
651	1465	0.006	1	0.006	0.010	96.641	0.020	83.193
652	1362	0.006	2	0.003	0.010	96.651	0.039	83.232
653	1066	0.006	1	0.006	0.009	96.660	0.020	83.252
654	74[illegible]	0.006	2	0.003	0.009	96.669	0.039	83.291
655	374	0.006	2	0.003	0.009	96.678	0.039	83.330
656	136[illegible]	0.006	1	0.006	0.009	96.686	0.020	83.350
657	785	.006	1	0.006	0.009	96.695	0.020	83.369
658	327	0.006	1	0.006	0.009	96.704	0.020	83.389
659	[illegible]	0.006	1	0.006	0.009	96.713	0.020	83.408
660	[illegible]	0.006	2	0.003	0.009	96.722	0.039	83.447
661	444	[illegible]	1	0.006	0.009	96.731	0.020	83.467
662	754	0.006	1	0.006	0.009	96.740	0.020	83.486
663	672	0.006	2	0.003	0.009	96.749	0.039	83.526
664	86[illegible]	0.006	1	0.006	0.009	96.758	0.020	83.545
665	114[illegible]	.006	2	0.003	0.009	96.767	0.039	83.584
666	228	.006	1	0.006	0.009	96.776	0.020	83.604
667	56	0.006	1	0.006	0.009	96.785	0.020	83.623
668	563	0.006	1	0.006	0.009	96.794	0.020	83.643
669	1287	.006	1	0.006	0.009	96.803	0.020	83.662
670	161	.006	2	0.003	0.009	96.812	0.039	83.701
671	1040	0.006	1	0.006	0.009	96.820	0.020	83.721
672	1093	0.006	1	0.006	0.009	96.829	0.020	83.740
673	514	.006	1	0.006	0.009	96.838	0.020	83.760
674	402	0.006	3	0.002	0.009	96.847	0.059	83.819
675	935	0.006	1	0.006	0.009	96.856	0.020	83.838
676	814	0.006	1	0.006	0.009	96.865	0.020	83.858
677	1098	0.006	1	0.006	0.009	96.874	0.020	83.877
678	341	0.006	4	0.001	0.009	96.883	0.078	83.955
679	488	0.006	1	0.006	0.009	96.892	0.020	83.975
680	119	0.006	1	0.006	0.009	96.901	0.020	83.995
681	82[illegible]	.006	2	0.003	0.009	96.910	0.039	84.034
682	78	.006	1	0.006	0.009	96.919	0.020	84.053
683	21	0.006	1	0.006	0.009	96.928	0.020	84.073
684	578	0.006	2	0.003	0.009	96.937	0.039	84.112
685	1112	0.006	2	0.003	0.009	96.945	0.039	84.151
686	1063	0.006	2	0.003	0.009	96.954	0.039	84.190
687	1115	0.006	1	0.006	0.009	96.963	0.020	84.209
688	858	0.006	1	0.006	0.009	96.972	0.020	84.229
689	561	0.005	1	0.005	0.008	96.981	0.020	84.249
690	630	0.005	1	0.005	0.008	96.989	0.020	84.268
691	750	0.005	1	0.005	0.008	96.997	0.020	84.288
692	259	0.005	2	0.003	0.008	97.006	0.039	84.327
693	41[illegible]	0.005	1	0.005	0.008	97.014	0.020	84.346
694	54	0.005	1	0.005	0.008	97.022	0.020	84.366
695	158	0.005	1	0.005	0.008	97.031	0.020	84.385
696	787	0.005	1	0.005	0.008	97.039	0.020	84.405
697	467	0.005	1	0.005	0.008	97.047	0.020	84.424
698	112[illegible]	0.005	1	0.005	0.008	97.056	0.020	84.444
699	1327	0.005	1	0.005	0.008	97.064	0.020	84.464
700	823	0.005	3	0.002	0.008	97.072	0.059	84.522
701	1332	0.005	1	0.005	0.008	97.081	0.020	84.542
702	1333	0.005	1	0.005	0.008	97.089	0.020	84.561
703	727	0.005	2	0.003	0.008	97.097	0.039	84.600
704	617	0.005	1	0.005	0.008	97.106	0.020	84.620
705	1222	0.005	1	0.005	0.008	97.114	0.020	84.639
706	647	0.005	1	0.005	0.008	97.122	0.020	84.659
707	400	0.005	1	0.005	0.008	97.131	0.020	84.679
708	94	0.005	1	0.005	0.008	97.139	0.020	84.698
709	359	0.005	2	0.003	0.008	97.147	0.039	84.737
710	892	0.005	1	0.005	0.008	97.156	0.020	84.757
711	1281	0.005	1	0.005	0.008	97.164	0.020	84.776
712	893	0.005	1	0.005	0.008	97.172	0.020	84.796
713	1356	0.005	1	0.005	0.008	97.181	0.020	84.815
714	62	0.005	1	0.005	0.008	97.189	0.020	84.835
715	438	0.005	1	0.005	0.008	97.197	0.020	84.854
716	898	0.005	1	0.005	0.008	97.206	0.020	84.874
717	1024	0.005	1	0.005	0.008	97.214	0.020	84.893
718	1341	0.005	3	0.002	0.008	97.222	0.059	84.952
719	1344	0.005	1	0.005	0.008	97.230	0.020	84.972
720	1054	0.005	1	0.005	0.008	97.237	0.020	84.991
721	858	0.005	1	0.005	0.008	97.245	0.020	85.011
722	659	0.005	1	0.005	0.008	97.253	0.020	85.030
723	661	0.005	1	0.005	0.008	97.260	0.020	85.050
724	479	0.005	1	0.005	0.008	97.268	0.020	85.069
725	129	.005	1	0.005	0.008	97.276	0.020	85.089
726	866	0.005	1	0.005	0.008	97.284	0.020	85.108
727	337	0.005	1	0.005	0.008	97.291	0.020	85.128
728	87[illegible]	0.005	1	0.005	0.008	97.299	0.020	85.148
729	669	0.005	1	0.005	0.008	97.307	0.020	85.167
730	302	.005	1	0.005	0.008	97.315	0.020	85.187
731	206	.005	1	0.005	0.008	97.322	0.020	85.206
732	141	.005	1	0.005	0.008	97.330	0.020	85.226
733	134	0.005	2	0.003	0.008	97.338	0.039	85.265
734	235	.005	2	0.003	0.008	97.346	0.039	85.304
735	675	.005	2	0.003	0.008	97.353	0.039	85.343
736	369	.005	1	0.005	0.008	97.361	0.020	85.363
737	613	0.005	2	0.003	0.008	97.369	0.039	85.402
738	646	.005	1	0.005	0.008	97.377	0.020	85.421
739	371	.005	2	0.003	0.008	97.384	0.039	85.460
740	648	0.005	1	0.005	0.008	97.392	0.020	85.480
741	615	.005	2	0.003	0.008	97.400	0.039	85.519
742	832	0.005	1	0.005	0.008	97.408	0.020	85.538
743	931	.005	1	0.005	0.008	97.415	0.020	85.558
744	1029	.005	2	0.003	0.008	97.423	0.039	85.597
745	1311	0.005	2	0.003	0.008	97.431	0.039	85.636
746	22	0.005	1	0.005	0.008	97.439	0.020	85.656
747	737	0.005	1	0.005	0.008	97.446	0.020	85.675
748	536	.005	1	0.005	0.008	97.454	0.020	85.695
749	1239	.005	1	0.005	0.008	97.462	0.020	85.714
750	124[illegible]	.005	2	0.003	0.008	97.469	0.039	85.753
751	139	0.005	1	0.005	0.008	97.477	0.020	85.773
752	655	0.005	1	0.005	0.008	97.485	0.020	85.792
753	1399	0.005	1	0.005	0.008	97.493	0.020	85.812

(Continued)

(7 of 14 sheets)

Table B3 (Continued)

ITEM NO.	TERRAIN UNIT	TOTAL AREA SQ.MI.	NO. OF OCCUR	MEAN AREA SQ.MI.	AREA %	AREA S %	OCCURRENCES %	OCCURRENCES S %
754	976	.005	2	0.003	0.008	97.500	0.039	85.851
755	845	.005	2	0.003	0.008	97.508	0.039	85.890
756	355	.005	2	0.003	0.008	97.516	0.039	85.929
757	745	0.005	2	0.003	0.008	97.524	0.039	85.968
758	31	0.005	1	0.005	0.008	97.531	0.020	85.988
759	1406	0.005	2	0.003	0.008	97.539	0.039	86.027
760	920	.005	1	0.005	0.008	97.547	0.020	86.047
761	835	0.005	1	0.005	0.007	97.554	0.020	86.066
762	1079	0.005	1	0.005	0.007	97.561	0.020	86.086
763	415	0.005	2	0.002	0.007	97.568	0.039	86.125
764	82	.005	1	0.005	0.007	97.575	0.020	86.144
765	845	0.005	1	0.005	0.007	97.583	0.020	86.164
766	713	0.005	1	0.005	0.007	97.590	0.020	86.183
767	1180	0.005	1	0.005	0.007	97.597	0.020	86.203
768	1486	0.005	1	0.005	0.007	97.604	0.020	86.222
769	714	.005	2	0.002	0.007	97.611	0.039	86.261
770	130	.005	1	0.005	0.007	97.618	0.020	86.281
771	933	.005	1	0.005	0.007	97.625	0.020	86.301
772	166	.005	3	0.002	0.007	97.633	0.059	86.359
773	1313	0.005	2	0.002	0.007	97.640	0.039	86.398
774	477	0.005	1	0.005	0.007	97.647	0.020	86.418
775	784	0.005	1	0.005	0.007	97.654	0.020	86.437
776	438	.005	1	0.005	0.007	97.661	0.020	86.457
777	689	.005	1	0.005	0.007	97.668	0.020	86.476
778	532	.005	1	0.005	0.007	97.675	0.020	86.496
779	167	.005	1	0.005	0.007	97.683	0.020	86.516
780	826	0.005	1	0.005	0.007	97.690	0.020	86.535
781	1258	.005	2	0.002	0.007	97.697	0.039	86.574
782	828	0.005	1	0.005	0.007	97.704	0.020	86.594
783	1147	0.005	1	0.005	0.007	97.711	0.020	86.613
784	561	0.005	1	0.005	0.007	97.718	0.020	86.633
785	1394	.005	1	0.005	0.007	97.725	0.020	86.652
786	173	.005	3	0.002	0.007	97.733	0.059	86.711
787	831	0.005	1	0.005	0.007	97.740	0.020	86.731
788	482	0.005	1	0.005	0.007	97.747	0.020	86.750
789	1154	0.005	1	0.005	0.007	97.754	0.020	86.770
790	974	0.005	1	0.005	0.007	97.761	0.020	86.789
791	562	0.005	1	0.005	0.007	97.768	0.020	86.809
792	301	0.005	2	0.002	0.007	97.776	0.039	86.848
793	1351	0.005	1	0.005	0.007	97.783	0.020	86.867
794	508	0.005	1	0.005	0.007	97.790	0.020	86.887
795	1424	0.005	1	0.005	0.007	97.797	0.020	86.906
796	738	.005	1	0.005	0.007	97.804	0.020	86.926
797	608	0.004	1	0.004	0.007	97.811	0.020	86.945
798	140	.004	1	0.004	0.007	97.817	0.020	86.965
799	216	.004	1	0.004	0.007	97.824	0.020	86.985
800	897	.004	1	0.004	0.007	97.830	0.020	87.004
801	5	0.004	1	0.004	0.007	97.837	0.020	87.024
802	1205	0.004	1	0.004	0.007	97.843	0.020	87.043
803	379	0.004	1	0.004	0.007	97.850	0.020	87.063
804	1357	0.004	1	0.004	0.007	97.856	0.020	87.082
805	957	0.004	1	0.004	0.007	97.863	0.020	87.102
806	535	0.004	1	0.004	0.007	97.870	0.020	87.121
807	163	0.004	2	0.002	0.007	97.876	0.039	87.160
808	475	0.004	1	0.004	0.007	97.883	0.020	87.180
809	219	0.004	2	0.002	0.007	97.889	0.039	87.219
810	42	0.004	2	0.002	0.007	97.896	0.039	87.258
811	165	0.004	1	0.004	0.007	97.902	0.020	87.278
812	9	0.004	1	0.004	0.007	97.909	0.020	87.297
813	583	0.004	1	0.004	0.007	97.915	0.020	87.317
814	19	0.004	2	0.002	0.007	97.922	0.039	87.356
815	1294	.004	1	0.004	0.007	97.929	0.020	87.375
816	917	.004	1	0.004	0.007	97.935	0.020	87.395
817	332	.004	1	0.004	0.007	97.942	0.020	87.415
818	864	0.004	1	0.004	0.007	97.948	0.020	87.434
819	552	0.004	1	0.004	0.007	97.955	0.020	87.454
820	1305	0.004	1	0.004	0.007	97.961	0.020	87.473
821	1316	0.004	1	0.004	0.007	97.968	0.020	87.493
822	518	0.004	2	0.002	0.007	97.974	0.039	87.532
823	727	0.004	1	0.004	0.007	97.981	0.020	87.551
824	306	0.004	1	0.004	0.007	97.987	0.020	87.571
825	871	0.004	3	0.001	0.007	97.994	0.059	87.629
826	1318	0.004	1	0.004	0.007	98.001	0.020	87.649
827	93	0.004	1	0.004	0.007	98.007	0.020	87.669
828	1955	0.004	1	0.004	0.007	98.014	0.020	87.688
829	92	0.004	2	0.002	0.007	98.020	0.039	87.727
830	1174	0.004	1	0.004	0.007	98.027	0.020	87.747
831	291	0.004	1	0.004	0.007	98.033	0.020	87.766
832	1178	0.004	1	0.004	0.007	98.040	0.020	87.786
833	843	0.004	1	0.004	0.007	98.046	0.020	87.805
834	997	0.004	2	0.002	0.007	98.053	0.039	87.844
835	339	0.004	1	0.004	0.007	98.060	0.020	87.864
836	728	0.004	1	0.004	0.007	98.066	0.020	87.884
837	125	0.004	2	0.002	0.007	98.073	0.039	87.923
838	526	0.004	1	0.004	0.007	98.079	0.020	87.942
839	13	0.004	2	0.002	0.007	98.086	0.039	87.981
840	498	0.004	2	0.002	0.007	98.092	0.039	88.020
841	1346	0.004	2	0.002	0.006	98.098	0.039	88.059
842	1347	0.004	1	0.004	0.006	98.104	0.020	88.079
843	253	0.004	1	0.004	0.006	98.110	0.020	88.098
844	412	0.004	1	0.004	0.006	98.116	0.020	88.118
845	442	0.004	1	0.004	0.006	98.122	0.020	88.138
846	591	0.004	1	0.004	0.006	98.128	0.020	88.157
847	1206	0.004	2	0.002	0.006	98.134	0.039	88.196
848	1209	0.004	1	0.004	0.006	98.140	0.020	88.216
849	975	0.004	1	0.004	0.006	98.146	0.020	88.235
850	878	0.004	1	0.004	0.006	98.152	0.020	88.255
851	977	0.004	1	0.004	0.006	98.158	0.020	88.274
852	193	0.004	1	0.004	0.006	98.164	0.020	88.294
853	376	0.004	1	0.004	0.006	98.170	0.020	88.313
854	85	0.004	1	0.004	0.006	98.176	0.020	88.333
855	749	0.004	1	0.004	0.006	98.182	0.020	88.353
856	64	0.004	1	0.004	0.006	98.188	0.020	88.372
857	325	0.004	1	0.004	0.006	98.193	0.020	88.392
858	452	0.004	3	0.001	0.006	98.199	0.059	88.450
859	399	0.004	2	0.002	0.006	98.205	0.039	88.489
860	1156	0.004	1	0.004	0.006	98.211	0.020	88.509
861	794	0.004	1	0.004	0.006	98.217	0.020	88.528

(Continued)

Table B3 (Continued)

ITEM NO.	TERRAIN UNIT	TOTAL AREA SQ.MI.	NO. OF OCCUR	MEAN AREA SQ.MI.	AREA <<<<<< %	>>>>>> S %	OCCURRENCES <<<<<< %	>>>>>> S %
862	364	0.004	1	0.004	0.006	98.223	0.020	88.548
863	996	0.004	1	0.004	0.006	98.229	0.020	88.568
864	36	0.004	1	0.004	0.006	98.235	0.020	88.587
865	762	0.004	1	0.004	0.006	98.241	0.020	88.607
866	570	0.004	2	0.002	0.006	98.247	0.039	88.646
867	852	0.004	3	0.001	0.006	98.253	0.059	88.704
868	1061	0.004	1	0.004	0.006	98.259	0.020	88.724
869	329	0.004	1	0.004	0.006	98.265	0.020	88.743
870	575	0.004	1	0.004	0.006	98.271	0.020	88.763
871	1248	0.004	1	0.004	0.006	98.277	0.020	88.782
872	1324	0.004	1	0.004	0.006	98.283	0.020	88.802
873	1176	0.004	2	0.002	0.006	98.289	0.039	88.841
874	108	0.004	1	0.004	0.006	98.295	0.020	88.861
875	1117	0.004	1	0.004	0.006	98.301	0.020	88.880
876	868	0.004	1	0.004	0.006	98.307	0.020	88.900
877	551	0.004	1	0.004	0.006	98.313	0.020	88.919
878	1011	0.004	1	0.004	0.006	98.319	0.020	88.939
879	212	0.004	1	0.004	0.006	98.324	0.020	88.958
880	463	0.004	1	0.004	0.006	98.330	0.020	88.978
881	525	0.004	1	0.004	0.006	98.336	0.020	88.997
882	1076	0.004	2	0.002	0.006	98.342	0.039	89.037
883	1129	0.004	1	0.004	0.006	98.348	0.020	89.056
884	89	0.004	2	0.002	0.006	98.354	0.039	89.095
885	869	0.004	4	0.001	0.006	98.360	0.078	89.173
886	925	0.003	2	0.002	0.005	98.366	0.039	89.212
887	696	0.003	1	0.003	0.005	98.371	0.020	89.232
888	801	0.003	1	0.003	0.005	98.376	0.020	89.252
889	909	0.003	1	0.003	0.005	98.382	0.020	89.271
890	258	0.003	1	0.003	0.005	98.387	0.020	89.291
891	818	0.003	2	0.002	0.005	98.392	0.039	89.330
892	1009	0.003	2	0.002	0.005	98.398	0.039	89.369
893	354	0.003	1	0.003	0.005	98.403	0.020	89.389
894	1363	0.003	1	0.003	0.005	98.408	0.020	89.408
895	205	0.003	1	0.003	0.005	98.414	0.020	89.427
896	1015	0.003	1	0.003	0.005	98.419	0.020	89.447
897	703	0.003	1	0.003	0.005	98.425	0.020	89.466
898	370	0.003	1	0.003	0.005	98.430	0.020	89.486
899	612	0.003	1	0.003	0.005	98.435	0.020	89.506
900	1371	0.003	1	0.003	0.005	98.441	0.020	89.525
901	1179	0.003	1	0.003	0.005	98.446	0.020	89.545
902	1310	0.003	1	0.003	0.005	98.451	0.020	89.564
903	356	0.003	2	0.002	0.005	98.457	0.039	89.603
904	372	0.003	1	0.003	0.005	98.462	0.020	89.623
905	711	0.003	1	0.003	0.005	98.467	0.020	89.642
906	188	0.003	1	0.003	0.005	98.473	0.020	89.662
907	483	0.003	1	0.003	0.005	98.478	0.020	89.681
908	512	0.003	1	0.003	0.005	98.483	0.020	89.701
909	178	0.003	1	0.003	0.005	98.489	0.020	89.721
910	1031	0.003	3	0.001	0.005	98.494	0.059	89.779
911	1196	0.003	1	0.003	0.005	98.500	0.020	89.799
912	394	0.003	2	0.002	0.005	98.505	0.039	89.838
913	1137	0.003	2	0.002	0.005	98.510	0.039	89.877
914	69	0.003	1	0.003	0.005	98.516	0.020	89.896
915	1038	0.003	1	0.003	0.005	98.521	0.020	89.916
916	838	0.003	1	0.003	0.005	98.526	0.020	89.936
917	758	0.003	1	0.003	0.005	98.532	0.020	89.955
918	1395	0.003	2	0.002	0.005	98.537	0.039	89.994
919	177	0.003	2	0.002	0.005	98.542	0.039	90.033
920	801	0.003	1	0.003	0.005	98.548	0.020	90.053
921	864	0.003	2	0.002	0.005	98.553	0.039	90.092
922	803	0.003	1	0.003	0.005	98.558	0.020	90.111
923	1048	0.003	1	0.003	0.005	98.564	0.020	90.131
924	242	0.003	1	0.003	0.005	98.569	0.020	90.150
925	187	0.003	1	0.003	0.005	98.575	0.020	90.170
926	495	0.003	3	0.001	0.005	98.580	0.059	90.229
927	334	0.003	1	0.003	0.005	98.585	0.020	90.248
928	471	0.003	1	0.003	0.005	98.591	0.020	90.268
929	1353	0.003	1	0.003	0.005	98.596	0.020	90.287
930	1243	0.003	1	0.003	0.005	98.601	0.020	90.307
931	1336	0.003	1	0.003	0.005	98.606	0.020	90.326
932	273	0.003	1	0.003	0.005	98.610	0.020	90.346
933	546	0.003	1	0.003	0.005	98.615	0.020	90.365
934	1175	0.003	1	0.003	0.005	98.620	0.020	90.385
935	223	0.003	1	0.003	0.005	98.625	0.020	90.405
936	268	0.003	1	0.003	0.005	98.629	0.020	90.424
937	294	0.003	1	0.003	0.005	98.634	0.020	90.444
938	719	0.003	1	0.003	0.005	98.639	0.020	90.463
939	73	0.003	1	0.003	0.005	98.644	0.020	90.483
940	159	0.003	1	0.003	0.005	98.648	0.020	90.502
941	850	0.003	1	0.003	0.005	98.653	0.020	90.522
942	192	0.003	1	0.003	0.005	98.658	0.020	90.541
943	102	0.003	1	0.003	0.005	98.663	0.020	90.561
944	995	0.003	1	0.003	0.005	98.667	0.020	90.580
945	1121	0.003	1	0.003	0.005	98.672	0.020	90.600
946	872	0.003	1	0.003	0.005	98.677	0.020	90.620
947	555	0.003	1	0.003	0.005	98.682	0.020	90.639
948	1267	0.003	1	0.003	0.005	98.687	0.020	90.659
949	1358	0.003	1	0.003	0.005	98.691	0.020	90.678
950	288	0.003	1	0.003	0.005	98.696	0.020	90.698
951	1199	0.003	1	0.003	0.005	98.701	0.020	90.717
952	729	0.003	1	0.003	0.005	98.706	0.020	90.737
953	1276	0.003	1	0.003	0.005	98.710	0.020	90.756
954	820	0.003	1	0.003	0.005	98.715	0.020	90.776
955	825	0.003	1	0.003	0.005	98.720	0.020	90.795
956	451	0.003	1	0.003	0.005	98.725	0.020	90.815
957	94	0.003	1	0.003	0.005	98.729	0.020	90.834
958	827	0.003	1	0.003	0.005	98.734	0.020	90.854
959	1208	0.003	1	0.003	0.005	98.739	0.020	90.874
960	695	0.003	1	0.003	0.005	98.744	0.020	90.893
961	331	0.003	1	0.003	0.005	98.748	0.020	90.913
962	890	0.003	1	0.003	0.005	98.753	0.020	90.932
963	404	0.003	3	0.001	0.005	98.758	0.059	90.991
964	948	0.003	1	0.003	0.005	98.763	0.020	91.010
965	1295	0.003	1	0.003	0.005	98.767	0.020	91.030
966	1215	0.003	1	0.003	0.005	98.772	0.020	91.049
967	315	0.003	1	0.003	0.005	98.777	0.020	91.069
968	739	0.003	1	0.003	0.005	98.782	0.020	91.089
969	455	0.003	1	0.003	0.005	98.787	0.020	91.108

(Continued)

Table 83 (Continued)

ITEM No.	TERRAIN UNIT	TOTAL AREA SQ.MI.	NO. OF OCCUR	MEAN AREA SQ.MI.	AREA <<<<<< %	>>>>>> Σ %	OCCURRENCES <<<<<< %	>>>>>> Σ %
970	431	0.003	1	0.003	0.005	98.791	0.020	91.128
971	1221	0.003	1	0.003	0.005	98.796	0.020	91.147
972	831	0.003	1	0.003	0.005	98.801	0.020	91.167
973	1309	0.003	1	0.003	0.005	98.806	0.020	91.186
974	960	0.003	1	0.003	0.005	98.810	0.020	91.206
975	937	0.003	1	0.003	0.005	98.815	0.020	91.225
976	1312	0.003	1	0.003	0.005	98.820	0.020	91.245
977	539	0.003	2	0.002	0.005	98.825	0.039	91.284
978	1091	0.003	1	0.003	0.005	98.829	0.020	91.303
979	350	0.003	1	0.003	0.005	98.834	0.020	91.323
980	844	0.003	2	0.002	0.005	98.839	0.039	91.362
981	748	0.003	1	0.003	0.005	98.844	0.020	91.382
982	707	0.003	1	0.003	0.005	98.848	0.020	91.401
983	708	0.003	1	0.003	0.005	98.853	0.020	91.421
984	352	.003	1	0.003	0.005	98.858	0.020	91.440
985	910	.003	1	0.003	0.005	98.863	0.020	91.460
986	1331	0.003	1	0.003	0.005	98.868	0.020	91.479
987	139	0.003	1	0.003	0.005	98.872	0.020	91.499
988	855	0.003	2	0.002	0.005	98.877	0.039	91.538
989	1408	0.003	1	0.003	0.005	98.882	0.020	91.558
990	1035	0.003	1	0.003	0.004	98.886	0.020	91.577
991	867	0.003	1	0.003	0.004	98.890	0.020	91.597
992	1100	0.003	1	0.003	0.004	98.894	0.020	91.616
993	1039	0.003	1	0.003	0.004	98.898	0.020	91.636
994	268	.003	1	0.003	0.004	98.903	0.020	91.655
995	77	0.003	1	0.003	0.004	98.907	0.020	91.675
996	978	0.003	1	0.003	0.004	98.911	0.020	91.694
997	924	0.003	1	0.003	0.004	98.915	0.020	91.714
998	211	0.003	1	0.003	0.004	98.919	0.020	91.733
999	156	0.003	1	0.003	0.004	98.923	0.020	91.753
1000	1183	0.003	1	0.003	0.004	98.928	0.020	91.773
1001	1184	0.003	1	0.003	0.004	98.932	0.020	91.792
1002	1349	0.003	1	0.003	0.004	98.936	0.020	91.812
1003	733	0.003	1	0.003	0.004	98.940	0.020	91.831
1004	1	0.003	1	0.003	0.004	98.944	0.020	91.851
1005	987	0.003	1	0.003	0.004	98.948	0.020	91.870
1006	1191	0.003	1	0.003	0.004	98.953	0.020	91.890
1007	735	0.003	1	0.003	0.004	98.957	0.020	91.909
1008	931	0.003	1	0.003	0.004	98.961	0.020	91.929
1009	150	0.003	1	0.003	0.004	98.965	0.020	91.948
1010	699	0.003	1	0.003	0.004	98.969	0.020	91.968
1011	992	0.003	1	0.003	0.004	98.973	0.020	91.987
1012	1198	0.003	1	0.003	0.004	98.978	0.020	92.007
1013	472	.003	1	0.003	0.004	98.982	0.020	92.027
1014	867	.003	1	0.003	0.004	98.986	0.020	92.046
1015	128	.003	1	0.003	0.004	98.990	0.020	92.066
1016	338	.003	1	0.003	0.004	98.994	0.020	92.085
1017	862	.003	1	0.003	0.004	98.999	0.020	92.105
1018	886	.003	1	0.003	0.004	99.003	0.020	92.124
1019	836	0.003	1	0.003	0.004	99.007	0.020	92.144
1020	834	.003	1	0.003	0.004	99.011	0.020	92.163
1021	1288	0.003	1	0.003	0.004	99.015	0.020	92.183
1022	474	0.003	1	0.003	0.004	99.019	0.020	92.202
1023	571	0.003	2	0.001	0.004	99.024	0.039	92.242

ITEM No.	TERRAIN UNIT	TOTAL AREA SQ.MI.	NO. OF OCCUR	MEAN AREA SQ.MI.	AREA <<<<<< %	>>>>>> Σ %	OCCURRENCES <<<<<< %	>>>>>> Σ %
1024	840	.003	1	0.003	0.004	99.028	0.020	92.261
1025	709	.003	2	0.001	0.004	99.032	0.039	92.300
1026	1138	.003	1	0.003	0.004	99.036	0.020	92.320
1027	373	.003	1	0.003	0.004	99.040	0.020	92.339
1028	1380	.003	1	0.003	0.004	99.044	0.020	92.359
1029	1077	0.003	1	0.003	0.004	99.049	0.020	92.378
1030	800	0.003	1	0.003	0.004	99.053	0.020	92.398
1031	812	.003	1	0.003	0.004	99.057	0.020	92.417
1032	1418	.003	1	0.003	0.004	99.061	0.020	92.437
1033	1080	0.003	1	0.003	0.004	99.065	0.020	92.457
1034	321	.003	1	0.003	0.004	99.069	0.020	92.476
1035	110	.003	1	0.003	0.004	99.074	0.020	92.496
1036	850	.003	1	0.003	0.004	99.078	0.020	92.515
1037	535	.003	1	0.003	0.004	99.082	0.020	92.535
1038	169	.003	1	0.003	0.004	99.086	0.020	92.554
1039	962	.003	1	0.003	0.004	99.090	0.020	92.574
1040	1314	.003	1	0.003	0.004	99.094	0.020	92.593
1041	507	.003	1	0.003	0.004	99.099	0.020	92.613
1042	264	.003	1	0.003	0.004	99.103	0.020	92.632
1043	883	.003	1	0.003	0.004	99.107	0.020	92.652
1044	33	.003	1	0.003	0.004	99.111	0.020	92.671
1045	1401	.003	1	0.003	0.004	99.115	0.020	92.691
1046	1232	.003	1	0.003	0.004	99.119	0.020	92.711
1047	1164	.003	1	0.003	0.004	99.124	0.020	92.730
1048	174	.003	1	0.003	0.004	99.128	0.020	92.750
1049	484	.003	1	0.003	0.004	99.132	0.020	92.769
1050	972	0.003	1	0.003	0.004	99.136	0.020	92.789
1051	880	.003	1	0.003	0.004	99.140	0.020	92.808
1052	485	.003	1	0.003	0.004	99.144	0.020	92.828
1053	476	0.002	1	0.002	0.004	99.148	0.020	92.847
1054	34	0.002	1	0.002	0.004	99.152	0.020	92.867
1055	417	.002	1	0.002	0.004	99.155	0.020	92.886
1056	449	.002	2	0.001	0.004	99.159	0.039	92.926
1057	1262	.002	1	0.002	0.004	99.162	0.020	92.945
1058	851	.002	1	0.002	0.004	99.166	0.020	92.965
1059	950	.002	1	0.002	0.004	99.169	0.020	92.984
1060	480	.002	1	0.002	0.004	99.173	0.020	93.004
1061	807	.002	1	0.002	0.004	99.177	0.020	93.023
1062	180	.002	1	0.002	0.004	99.180	0.020	93.043
1063	1007	0.002	1	0.002	0.004	99.184	0.020	93.062
1064	1352	.002	1	0.002	0.004	99.187	0.020	93.082
1065	209	.002	1	0.002	0.004	99.191	0.020	93.101
1066	1132	.002	1	0.002	0.004	99.194	0.020	93.121
1067	1072	.002	1	0.002	0.004	99.198	0.020	93.141
1068	421	.002	1	0.002	0.004	99.202	0.020	93.160
1069	277	.002	1	0.002	0.004	99.205	0.020	93.180
1070	1013	.002	1	0.002	0.004	99.209	0.020	93.199
1071	1359	.002	1	0.002	0.004	99.212	0.020	93.219
1072	854	.002	2	0.001	0.004	99.216	0.039	93.258
1073	249	.002	1	0.002	0.004	99.219	0.020	93.277
1074	1283	.002	1	0.002	0.004	99.223	0.020	93.297
1075	1141	.002	1	0.002	0.004	99.227	0.020	93.316
1076	965	.002	1	0.002	0.004	99.230	0.020	93.336
1077	181	.002	1	0.002	0.004	99.234	0.020	93.355

(Continued)

(10 of 14 sheets)

Table B3 (Continued)

ITEM NO.	TERRAIN UNIT	TOTAL AREA SQ.MI.	NO. OF OCCUR	MEAN AREA SQ.MI.	AREA %	AREA S %	OCCURRENCES %	OCCURRENCES S %
1078	1067	0.002	1	0.002	0.004	99.237	0.020	93.375
1079	1081	0.002	1	0.002	0.004	99.241	0.020	93.395
1080	857	0.002	1	0.002	0.004	99.244	0.020	93.414
1081	775	0.002	1	0.002	0.004	99.248	0.020	93.434
1082	152	0.002	1	0.002	0.004	99.252	0.020	93.453
1083	97[illegible]	0.002	1	0.002	0.004	99.255	0.020	93.473
1084	115[illegible]	0.002	2	0.001	0.004	99.259	0.039	93.512
1085	1151	0.002	1	0.002	0.004	99.262	0.020	93.531
1086	1023	0.002	1	0.002	0.004	99.266	0.020	93.551
1087	521	0.002	1	0.002	0.004	99.269	0.020	93.570
1088	284	0.002	1	0.002	0.004	99.273	0.020	93.590
1089	1304	0.002	1	0.002	0.004	99.277	0.020	93.610
1090	923	0.002	1	0.002	0.004	99.280	0.020	93.629
1091	862	0.002	1	0.002	0.004	99.284	0.020	93.649
1092	116	0.002	1	0.002	0.004	99.287	0.020	93.668
1093	461	0.002	1	0.002	0.004	99.291	0.020	93.688
1094	926	0.002	1	0.002	0.004	99.294	0.020	93.707
1095	491	0.002	1	0.002	0.004	99.298	0.020	93.727
1096	285	0.002	1	0.002	0.004	99.302	0.020	93.746
1097	363	0.002	1	0.002	0.004	99.305	0.020	93.766
1098	1233	0.002	1	0.002	0.004	99.309	0.020	93.785
1099	868	0.002	1	0.002	0.004	99.312	0.020	93.805
1100	74	0.002	1	0.002	0.004	99.316	0.020	93.825
1101	1041	0.002	1	0.002	0.004	99.319	0.020	93.844
1102	17[illegible]	0.002	1	0.002	0.004	99.323	0.020	93.864
1103	984	0.002	1	0.002	0.004	99.327	0.020	93.883
1104	3[illegible]5	0.002	1	0.002	0.004	99.330	0.020	93.903
1105	243	0.002	1	0.002	0.004	99.334	0.020	93.922
1106	1328	0.002	1	0.002	0.004	99.337	0.020	93.942
1107	244	0.002	1	0.002	0.004	99.341	0.020	93.961
1108	836	0.002	1	0.002	0.004	99.344	0.020	93.981
1109	1049	0.002	1	0.002	0.004	99.348	0.020	94.000
1110	346	0.002	1	0.002	0.004	99.352	0.020	94.020
1111	863	0.002	1	0.002	0.004	99.355	0.020	94.039
1112	7[illegible]	0.002	1	0.002	0.004	99.359	0.020	94.059
1113	752	0.002	1	0.002	0.004	99.362	0.020	94.079
1114	392	0.002	1	0.002	0.004	99.366	0.020	94.098
1115	538	0.002	1	0.002	0.003	99.369	0.020	94.118
1116	768	0.002	1	0.002	0.003	99.372	0.020	94.137
1117	822	0.002	1	0.002	0.003	99.375	0.020	94.157
1118	77[illegible]	0.002	2	0.001	0.003	99.378	0.039	94.196
1119	59	0.002	1	0.002	0.003	99.381	0.020	94.215
1120	9[illegible]	0.002	1	0.002	0.003	99.384	0.020	94.235
1121	54[illegible]	0.002	1	0.002	0.003	99.387	0.020	94.254
1122	335	0.002	1	0.002	0.003	99.390	0.020	94.274
1123	1127	0.002	1	0.002	0.003	99.393	0.020	94.294
1124	774	0.002	1	0.002	0.003	99.396	0.020	94.313
1125	9[illegible]4	0.002	1	0.002	0.003	99.399	0.020	94.333
1126	718	0.002	1	0.002	0.003	99.402	0.020	94.352
1127	1051	0.002	1	0.002	0.003	99.405	0.020	94.372
1128	312	0.002	1	0.002	0.003	99.408	0.020	94.391
1129	1334	0.002	1	0.002	0.003	99.411	0.020	94.411
1130	362	0.002	1	0.002	0.003	99.414	0.020	94.430
1131	1135	0.002	1	0.002	0.003	99.416	0.020	94.450

ITEM NO.	TERRAIN UNIT	TOTAL AREA SQ.MI.	NO. OF OCCUR	MEAN AREA SQ.MI.	AREA %	AREA S %	OCCURRENCES %	OCCURRENCES S %
1132	446	0.002	1	0.002	0.003	99.419	0.020	94.469
1133	47	0.002	1	0.002	0.003	99.422	0.020	94.489
1134	911	0.002	1	0.002	0.003	99.425	0.020	94.509
1135	1139	0.002	1	0.002	0.003	99.428	0.020	94.528
1136	87	0.002	1	0.002	0.003	99.431	0.020	94.548
1137	1343	0.002	1	0.002	0.003	99.434	0.020	94.567
1138	513	0.002	2	0.001	0.003	99.437	0.039	94.606
1139	106[illegible]	0.002	1	0.002	0.003	99.440	0.020	94.626
1140	168	0.002	1	0.002	0.003	99.443	0.020	94.645
1141	1[illegible]62	0.002	1	0.002	0.003	99.446	0.020	94.665
1142	985	0.002	1	0.002	0.003	99.449	0.020	94.684
1143	1064	0.002	1	0.002	0.003	99.452	0.020	94.704
1144	589	0.002	1	0.002	0.003	99.455	0.020	94.723
1145	45[illegible]	0.002	1	0.002	0.003	99.458	0.020	94.743
1146	1067	0.002	1	0.002	0.003	99.461	0.020	94.763
1147	838	0.002	1	0.002	0.003	99.464	0.020	94.782
1148	12	0.002	1	0.002	0.003	99.467	0.020	94.802
1149	593	0.002	1	0.002	0.003	99.470	0.020	94.821
1150	189	0.002	1	0.002	0.003	99.473	0.020	94.841
1151	853	0.002	1	0.002	0.003	99.476	0.020	94.860
1152	12[illegible]	0.002	1	0.002	0.003	99.479	0.020	94.880
1153	844	0.002	1	0.002	0.003	99.482	0.020	94.899
1154	887	0.002	1	0.002	0.503	99.485	0.020	94.919
1155	596	0.002	2	0.001	0.003	99.488	0.039	94.958
1156	554	0.002	1	0.002	0.003	99.491	0.020	94.978
1157	862	0.002	1	0.002	0.003	99.494	0.020	94.997
1158	5[illegible]	0.002	1	0.002	0.003	99.497	0.020	95.017
1159	893	0.002	1	0.002	0.003	99.500	0.020	95.036
1160	275	0.002	1	0.002	0.003	99.503	0.020	95.056
1161	51	0.002	1	0.002	0.003	99.506	0.020	95.075
1162	4[illegible]	0.002	1	0.002	0.003	99.509	0.020	95.095
1163	2	0.002	1	0.002	0.003	99.512	0.020	95.114
1164	1173	0.002	1	0.032	0.003	99.515	0.020	95.134
1165	18	0.002	1	0.002	0.003	99.518	0.020	95.153
1166	938	0.002	1	0.002	0.003	99.521	0.020	95.173
1167	1010	0.002	1	0.002	0.003	99.524	0.020	95.192
1168	808	0.002	1	0.002	0.003	99.527	0.020	95.212
1169	1278	0.002	1	0.002	0.003	99.530	0.020	95.232
1170	1012	0.002	2	0.001	0.003	99.533	0.039	95.271
1171	859	0.002	1	0.002	0.003	99.536	0.020	95.290
1172	432	0.002	1	0.002	0.003	99.539	0.020	95.310
1173	1181	0.002	1	0.002	0.003	99.542	0.020	95.329
1174	43	0.002	1	0.002	0.003	99.545	0.020	95.349
1175	353	0.002	1	0.002	0.003	99.547	0.020	95.368
1176	877	0.002	1	0.002	0.003	99.550	0.020	95.388
1177	946	0.002	1	0.002	0.003	99.553	0.020	95.407
1178	1187	0.002	1	0.002	0.003	99.556	0.020	95.427
1179	3[illegible]	0.002	1	0.002	0.003	99.559	0.020	95.447
1180	816	0.002	1	0.002	0.003	99.562	0.020	95.466
1181	1391	0.002	1	0.002	0.003	99.565	0.020	95.486
1182	499	0.002	1	0.002	0.003	99.568	0.020	95.505
1183	1393	0.002	1	0.002	0.003	99.571	0.020	95.525
1184	1293	0.002	1	0.002	0.003	99.574	0.020	95.544
1185	755	0.002	1	0.002	0.003	99.577	0.020	95.564

(Continued)

(11 of 14 sheets)

Table B3 (Continued)

ITEM NO.	TERRAIN UNIT	TOTAL AREA SQ.MI.	NO. OF OCCUR	MEAN AREA SQ.MI.	AREA <<<<<< %	>>>>>> S %	OCCURRENCES <<<<<< %	>>>>>> S %
1186	951	.002	1	0.002	0.003	99.580	0.020	95.583
1187	5	0.002	1	0.002	0.003	99.583	0.020	95.603
1188	9	0.002	1	0.002	0.003	99.586	0.020	95.622
1189	15	0.002	1	0.002	0.003	99.589	0.020	95.642
1190	164	0.002	1	0.002	0.003	99.592	0.020	95.662
1191	1108	0.002	1	0.002	0.003	99.595	0.020	95.681
1192	1109	0.002	1	0.002	0.003	99.598	0.020	95.701
1193	1032	0.002	1	0.002	0.003	99.601	0.020	95.720
1194	1113	0.002	1	0.002	0.003	99.604	0.020	95.740
1195	536	0.002	1	0.002	0.003	99.607	0.020	95.759
1196	891	0.002	1	0.002	0.003	99.610	0.020	95.779
1197	618	.002	1	0.002	0.003	99.613	0.020	95.798
1198	441	0.002	1	0.002	0.003	99.616	0.020	95.818
1199	413	0.002	1	0.002	0.002	99.618	0.020	95.837
1200	1423	0.002	1	0.002	0.002	99.621	0.020	95.857
1201	751	0.002	1	0.002	0.002	99.623	0.020	95.876
1202	1425	.002	1	0.002	0.002	99.625	0.020	95.896
1203	817	.002	1	0.002	0.002	99.628	0.020	95.916
1204	487	0.002	1	0.002	0.002	99.630	0.020	95.935
1205	1426	0.002	1	0.002	0.002	99.633	0.020	95.955
1206	1329	0.002	1	0.002	0.002	99.635	0.020	95.974
1207	812	.002	1	0.002	0.002	99.637	0.020	95.994
1208	191	0.002	1	0.002	0.002	99.640	0.020	96.013
1209	398	.002	1	0.002	0.002	99.642	0.020	96.033
1210	385	0.002	1	0.002	0.002	99.645	0.020	96.052
1211	1005	0.002	1	0.002	0.002	99.647	0.020	96.072
1212	1006	0.002	1	0.002	0.002	99.649	0.020	96.091
1213	875	0.002	1	0.002	0.002	99.652	0.020	96.111
1214	49	0.002	1	0.002	0.002	99.654	0.020	96.131
1215	1238	.002	1	0.002	0.002	99.656	0.020	96.150
1216	941	0.002	1	0.002	0.002	99.659	0.020	96.170
1217	863	0.002	1	0.002	0.002	99.661	0.020	96.189
1218	251	0.002	1	0.002	0.002	99.664	0.020	96.209
1219	531	0.002	1	0.002	0.002	99.666	0.020	96.228
1220	881	0.002	1	0.002	0.002	99.668	0.020	96.248
1221	1244	0.002	1	0.002	0.002	99.671	0.020	96.267
1222	494	0.002	1	0.002	0.002	99.673	0.020	96.287
1223	423	0.002	1	0.002	0.002	99.675	0.020	96.306
1224	1016	0.002	1	0.002	0.002	99.678	0.020	96.326
1225	534	0.002	1	0.002	0.002	99.680	0.020	96.346
1226	574	0.002	1	0.002	0.002	99.683	0.020	96.365
1227	1168	0.002	1	0.002	0.002	99.685	0.020	96.385
1228	311	0.002	1	0.002	0.002	99.687	0.020	96.404
1229	390	0.002	1	0.002	0.002	99.690	0.020	96.424
1230	717	0.002	1	0.002	0.002	99.692	0.020	96.443
1231	391	0.002	1	0.002	0.002	99.695	0.020	96.463
1232	954	0.002	1	0.002	0.002	99.697	0.020	96.482
1233	560	0.002	2	0.001	0.002	99.699	0.039	96.521
1234	121	0.002	1	0.002	0.002	99.702	0.020	96.541
1235	895	0.002	1	0.002	0.002	99.704	0.020	96.560
1236	255	0.002	1	0.002	0.002	99.706	0.020	96.580
1237	722	0.002	1	0.002	0.002	99.709	0.020	96.600
1238	465	0.002	1	0.002	0.002	99.711	0.020	96.619
1239	171	0.002	1	0.002	0.002	99.714	0.020	96.639

ITEM NO.	TERRAIN UNIT	TOTAL AREA SQ.MI.	NO. OF OCCUR	MEAN AREA SQ.MI.	AREA <<<<<< %	>>>>>> S %	[redacted] <<<<<< %	>>>>>> S %
1240	21	0.002	1	0.002	0.002	99.716	0.020	96.658
1241	779	.002	1	0.002	0.002	99.718	0.020	96.678
1242	1037	0.002	1	0.002	0.002	99.721	0.020	96.697
1243	1107	.002	1	0.002	0.002	99.723	0.020	96.717
1244	123	0.002	1	0.002	0.002	99.726	0.020	96.736
1245	469	.002	1	0.002	0.002	99.728	0.020	96.756
1246	111	.002	1	0.002	0.002	99.730	0.020	96.775
1247	1189	0.002	1	0.002	0.002	99.733	0.020	96.795
1248	1111	0.002	1	0.002	0.002	99.735	0.020	96.815
1249	95	0.002	1	0.002	0.002	99.737	0.020	96.834
1250	434	0.002	1	0.002	0.002	99.740	0.020	96.854
1251	114	0.002	2	0.001	0.002	99.742	0.039	96.893
1252	843	0.002	1	0.002	0.002	99.745	0.020	96.912
1253	1195	0.002	1	0.002	0.002	99.747	0.020	96.932
1254	1379	0.002	1	0.002	0.002	99.749	0.020	96.951
1255	592	0.002	1	0.002	0.002	99.752	0.020	96.971
1256	161	.002	1	0.002	0.002	99.754	0.020	96.990
1257	79	.002	1	0.002	0.002	99.756	0.020	97.010
1258	1291	0.002	1	0.002	0.002	99.759	0.020	97.030
1259	1384	.002	1	0.002	0.002	99.761	0.020	97.049
1260	30	0.002	1	0.002	0.002	99.764	0.020	97.069
1261	913	0.002	1	0.002	0.002	99.766	0.020	97.088
1262	914	0.002	1	0.002	0.002	99.768	0.020	97.108
1263	848	0.002	1	0.002	0.002	99.771	0.020	97.127
1264	322	.002	2	0.001	0.002	99.773	0.039	97.166
1265	1297	0.002	1	0.002	0.002	99.776	0.020	97.186
1266	279	0.002	1	0.002	0.002	99.778	0.020	97.205
1267	983	0.002	1	0.002	0.002	99.780	0.020	97.225
1268	1207	0.002	1	0.002	0.002	99.783	0.020	97.244
1269	1353	.002	1	0.002	0.002	99.785	0.020	97.264
1270	455	0.002	1	0.002	0.002	99.787	0.020	97.284
1271	599	0.002	1	0.002	0.002	99.790	0.020	97.303
1272	324	0.002	1	0.002	0.002	99.792	0.020	97.323
1273	1058	0.002	1	0.002	0.002	99.795	0.020	97.342
1274	799	0.002	1	0.002	0.002	99.797	0.020	97.362
1275	742	0.002	1	0.002	0.002	99.799	0.020	97.381
1276	262	0.002	1	0.002	0.002	99.802	0.020	97.401
1277	4	0.002	1	0.002	0.002	99.804	0.020	97.420
1278	283	.002	1	0.002	0.002	99.806	0.020	97.440
1279	265	0.002	1	0.002	0.002	99.809	0.020	97.459
1280	747	0.002	1	0.002	0.002	99.811	0.020	97.479
1281	357	0.002	1	0.002	0.002	99.814	0.020	97.499
1282	65	0.002	1	0.002	0.002	99.816	0.020	97.518
1283	842	0.001	1	0.001	0.002	99.818	0.020	97.538
1284	497	.001	1	0.001	0.002	99.820	0.020	97.557
1285	809	0.001	1	0.001	0.002	99.821	0.020	97.577
1286	425	0.001	1	0.001	0.002	99.823	0.020	97.596
1287	1185	0.001	1	0.001	0.002	99.825	0.020	97.616
1288	579	0.001	1	0.001	0.002	99.827	0.020	97.635
1289	294	0.001	1	0.001	0.002	99.829	0.020	97.655
1290	759	0.001	1	0.001	0.002	99.830	0.020	97.674
1291	1124	0.001	1	0.001	0.002	99.832	0.020	97.694
1292	761	0.001	1	0.001	0.002	99.834	0.020	97.714
1293	955	0.001	1	0.001	0.002	99.836	0.020	97.733

(Continued)

(12 of 14 sheets)

Table B3 (Continued)

ITEM NO.	TERRAIN UNIT	TOTAL AREA SQ.MI.	NO. OF OCCUR	MEAN AREA SQ.MI.	AREA <<<<<< %	AREA >>>>>> S %	OCCURRENCES <<<<<< %	OCCURRENCES >>>>>> S %
1294	956	0.001	1	0.001	0.002	99.837	0.020	97.753
1295	1128	.001	1	0.001	0.002	99.839	0.020	97.772
1296	328	0.001	1	0.001	0.002	99.841	0.020	97.792
1297	906	0.001	2	0.001	0.002	99.843	0.039	97.831
1298	959	0.001	1	0.001	0.002	99.845	0.020	97.850
1299	264	0.001	1	0.001	0.002	99.846	0.020	97.870
1300	1272	0.001	1	0.001	0.002	99.848	0.020	97.889
1301	856	0.001	1	0.001	0.002	99.850	0.020	97.909
1302	1275	0.001	1	0.001	0.002	99.852	0.020	97.928
1303	764	.001	1	0.001	0.002	99.854	0.020	97.948
1304	859	0.001	1	0.001	0.002	99.855	0.020	97.968
1305	429	0.001	1	0.001	0.002	99.857	0.020	97.987
1306	724	0.001	1	0.001	0.002	99.859	0.020	98.007
1307	43[illegible]	0.001	1	0.001	0.002	99.861	0.020	98.026
1308	172	.001	1	0.001	0.002	99.862	0.020	98.046
1309	199	0.001	1	0.001	0.002	99.864	0.020	98.065
1310	587	0.001	1	0.001	0.002	99.866	0.020	98.085
1311	456	0.001	1	0.001	0.002	99.868	0.020	98.104
1312	1285	0.001	1	0.001	0.002	99.870	0.020	98.124
1313	821	0.001	1	0.001	0.002	99.871	0.020	98.143
1314	121[illegible]	0.001	1	0.001	0.002	99.873	0.020	98.163
1315	1366	0.001	1	0.001	0.002	99.875	0.020	98.183
1316	1026	0.001	1	0.001	0.002	99.877	0.020	98.202
1317	238	0.001	1	0.001	0.002	99.879	0.020	98.222
1318	732	0.001	1	0.001	0.002	99.880	0.020	98.241
1319	1030	0.001	1	0.001	0.002	99.882	0.020	98.261
1320	157	0.001	1	0.001	0.002	99.884	0.020	98.280
1321	347	0.001	1	0.001	0.002	99.886	0.020	98.300
1322	66[illegible]	0.001	1	0.001	0.002	99.887	0.020	98.319
1323	1092	0.001	1	0.001	0.002	99.889	0.020	98.339
1324	195	0.001	1	0.001	0.002	99.891	0.020	98.358
1325	415	0.001	1	0.001	0.002	99.893	0.020	98.378
1326	349	0.001	1	0.001	0.002	99.895	0.020	98.397
1327	876	0.001	1	0.001	0.002	99.896	0.020	98.417
1328	1157	0.001	1	0.001	0.002	99.898	0.020	98.437
1329	1302	0.001	1	0.001	0.002	99.900	0.020	98.456
1330	1159	0.001	1	0.001	0.002	99.902	0.020	98.476
1331	701	0.001	1	0.001	0.002	99.904	0.020	98.495
1332	782	0.001	1	0.001	0.002	99.905	0.020	98.515
1333	629	0.001	1	0.001	0.002	99.907	0.020	98.534
1334	1228	0.001	1	0.001	0.002	99.909	0.020	98.554
1335	231	.001	1	0.001	0.002	99.911	0.020	98.573
1336	1043	0.001	1	0.001	0.002	99.912	0.020	98.593
1337	351	0.001	1	0.001	0.002	99.914	0.020	98.612
1338	29	.001	1	0.001	0.002	99.916	0.020	98.632
1339	633	0.001	1	0.001	0.002	99.918	0.020	98.652
1340	1234	0.001	1	0.001	0.002	99.920	0.020	98.671
1341	491	0.001	1	0.001	0.002	99.921	0.020	98.691
1342	1236	0.001	1	0.001	0.002	99.923	0.020	98.710
1343	1319	0.001	1	0.001	0.002	99.925	0.020	98.730
1344	252	0.001	1	0.001	0.002	99.927	0.020	98.749
1345	887	0.001	1	0.001	0.002	99.929	0.020	98.769
1346	1322	0.001	1	0.001	0.002	99.930	0.020	98.788
1347	796	0.001	1	0.001	0.002	99.932	0.020	98.808
1348	993	.001	1	0.001	0.002	99.934	0.020	98.827
1349	837	0.001	1	0.001	0.002	99.936	0.020	98.847
1350	403	0.001	1	0.001	0.002	99.937	0.020	98.867
1351	545	0.001	1	0.001	0.002	99.939	0.020	98.886
1352	572	0.001	1	0.001	0.002	99.941	0.020	98.906
1353	1247	0.001	1	0.001	0.002	99.943	0.020	98.925
1354	112	0.001	1	0.001	0.002	99.945	0.020	98.945
1355	423	0.001	1	0.001	0.002	99.946	0.020	98.964
1356	289	.001	1	0.001	0.002	99.948	0.020	98.984
1357	1268	0.001	1	0.001	0.001	99.949	0.020	99.003
1358	1269	0.001	1	0.001	0.001	99.951	0.020	99.023
1359	183	0.001	1	0.001	0.001	99.952	0.020	99.042
1360	44[illegible]	0.001	1	0.001	0.001	99.953	0.020	99.062
1361	1163	0.001	1	0.001	0.001	99.954	0.020	99.081
1362	1273	0.001	1	0.001	0.001	99.955	0.020	99.101
1363	459	0.001	1	0.001	0.001	99.957	0.020	99.121
1364	884	0.001	1	0.001	0.001	99.958	0.020	99.140
1365	1075	0.001	1	0.001	0.001	99.959	0.020	99.160
1366	69[illegible]	0.001	1	0.001	0.001	99.960	0.020	99.179
1367	1245	.001	1	0.001	0.001	99.961	0.020	99.199
1368	1246	0.001	1	0.001	0.001	99.962	0.020	99.218
1369	1143	0.001	1	0.001	0.001	99.964	0.020	99.238
1370	763	0.001	1	0.001	0.001	99.965	0.020	99.257
1371	1388	0.001	1	0.001	0.001	99.966	0.020	99.277
1372	922	0.001	1	0.001	0.001	99.967	0.020	99.296
1373	1036	0.001	1	0.001	0.001	99.968	0.020	99.316
1374	891	0.001	1	0.001	0.001	99.970	0.020	99.336
1375	1252	0.001	1	0.001	0.001	99.971	0.020	99.355
1376	122	0.001	1	0.001	0.001	99.972	0.020	99.375
1377	28[illegible]	0.001	1	0.001	0.001	99.973	0.020	99.394
1378	839	0.001	1	0.001	0.001	99.974	0.020	99.414
1379	968	0.001	1	0.001	0.001	99.976	0.020	99.433
1380	502	0.001	1	0.001	0.001	99.977	0.020	99.453
1381	1253	0.001	1	0.001	0.001	99.978	0.020	99.472
1382	823	0.001	1	0.001	0.001	99.979	0.020	99.492
1383	1260	0.001	1	0.001	0.001	99.980	0.020	99.511
1384	462	0.001	1	0.001	0.001	99.982	0.020	99.531
1385	796	0.001	1	0.001	0.001	99.983	0.020	99.551
1386	798	0.001	1	0.001	0.001	99.984	0.020	99.570
1387	326	0.001	1	0.001	0.001	99.985	0.020	99.590
1388	1158	0.001	1	0.001	0.001	99.986	0.020	99.609
1389	1027	0.001	1	0.001	0.001	99.987	0.020	99.629
1390	143	0.001	1	0.001	0.001	99.989	0.020	99.648
1391	1301	0.001	1	0.001	0.001	99.990	0.020	99.668
1392	805	0.000*	1	0.000	0.001	99.990	0.020	99.687
1393	1342	0.000	1	0.000	0.001	99.991	0.020	99.707
1394	576	0.000	1	0.000	0.001	99.992	0.020	99.726
1395	857	0.000	1	0.000	0.001	99.992	0.020	99.746
1396	154	0.000	1	0.000	0.001	99.993	0.020	99.765
1397	797	0.000	1	0.000	0.001	99.993	0.020	99.785
1398	233	.000	1	0.000	0.001	99.994	0.020	99.805
1399	1315	0.000	1	0.000	0.001	99.995	0.020	99.824
1400	849	0.000	1	0.000	0.001	99.995	0.020	99.844
1401	1317	0.000	1	0.000	0.001	99.996	0.020	99.863

(Continued)

*Areas less than 0.001 are shown as 0.000.

Table B3 (Concluded)

ITEM NO.	TERRAIN UNIT	TOTAL AREA SQ.MI.	NO. OF OCCUR	MEAN AREA SQ.MI.	AREA <<<<<< >>>>>> %	Σ %	OCCURRENCES <<<<<< >>>>>> %	Σ %
1402	115	0.000*	1	0.000	0.001	99.996	0.020	99.883
1403	287	0.000	1	0.000	0.001	99.997	0.020	99.902
1404	888	0.000	1	0.000	0.001	99.998	0.020	99.922
1405	488	0.000	1	0.000	0.001	99.998	0.020	99.941
1406	222	0.000	1	0.000	0.001	99.999	0.020	99.961
1407	1407	0.000	1	0.000	0.001	99.999	0.020	99.980
1408	804	0.007	1	0.000	0.001	100.000	0.020	100.000

*Areas less than 0.001 are shown as 0.000.

Table B4

Summary of Linear Terrain Unit, Length, and Occurrence Data for Fort Knox Study Area 1 (FK1)

ITEM NO.	TERRAIN UNIT	TOTAL LENGTH MILES	NO. OF OCCUR	MEAN LENGTH MILES	LENGTH %	LENGTH S %	OCCURRENCES %	OCCURRENCES S %
1	2	7.350	5	1.470	24.590	24.590	9.804	9.804
2	6	3.230	1	3.230	10.806	35.396	1.961	11.765
3	17	3.110	1	3.110	10.405	45.801	1.961	13.725
4	15	2.600	6	0.433	8.699	54.500	11.765	25.490
5	12	2.580	7	0.369	8.632	63.131	13.725	39.216
6	6	2.150	1	2.150	7.196	70.325	1.961	41.176
7	13	1.950	9	0.217	6.524	76.848	17.647	58.824
8	11	1.780	7	0.254	5.955	82.804	13.725	72.549
9	7	1.690	1	1.690	5.654	88.458	1.961	74.510
10	14	0.720	3	0.240	2.409	90.867	5.882	80.392
11	5	0.630	2	0.315	2.108	92.974	3.922	84.314
12	16	0.620	1	0.620	2.074	95.049	1.961	86.275
13	10	0.520	2	0.260	1.740	96.788	3.922	90.196
14	4	0.340	2	0.170	1.138	97.926	3.922	94.118
15	1	0.280	1	0.280	0.937	98.862	1.961	96.078
16	3	0.170	1	0.170	0.569	99.431	1.961	98.039
17	9	0.170	1	0.170	0.569	100.000	1.961	100.000

Table B5

Summary of Linear Terrain Unit, Length, and Occurrence Data for Fort Knox Study Area 2 (FK2)

ITEM NO.	TERRAIN UNIT	TOTAL LENGTH MILES	NO. OF OCCUR	MEAN LENGTH MILES	LENGTH <<<<<< %	>>>>>> S %	OCCURRENCE <<<<<< %	>>>>>> S %
1	3	4.690	2	2.345	18.277	18.277	2.667	2.667
2	8	3.380	7	0.483	13.172	31.450	9.333	12.000
3	7	2.190	32	0.068	8.535	39.984	42.667	54.667
4	26	1.850	1	1.850	7.210	47.194	1.333	56.000
5	2	1.230	1	1.230	4.793	51.988	1.333	57.333
6	24	1.170	3	0.390	4.560	56.547	4.000	61.333
7	13	0.980	7	0.140	3.819	60.366	9.333	70.667
8	5	0.970	2	0.485	3.780	64.147	2.667	73.333
9	23	0.920	1	0.920	3.585	67.732	1.333	74.667
10	1	0.920	1	0.920	3.585	71.317	1.333	76.000
11	20	0.920	1	0.920	3.585	74.903	1.333	77.333
12	9	0.830	2	0.415	3.235	78.137	2.667	80.000
13	22	0.800	1	0.800	3.118	81.255	1.333	81.333
14	16	0.750	2	0.375	2.923	84.178	2.667	84.000
15	10	0.540	1	0.540	2.104	86.282	1.333	85.333
16	18	0.480	1	0.480	1.871	88.153	1.333	86.667
17	19	0.460	1	0.460	1.793	89.945	1.333	88.000
18	25	0.460	1	0.460	1.793	91.738	1.333	89.333
19	21	0.460	1	0.460	1.793	93.531	1.333	90.667
20	15	0.450	1	0.450	1.754	95.284	1.333	92.000
21	4	0.380	1	0.380	1.481	96.765	1.333	93.333
22	17	0.310	1	0.310	1.208	97.973	1.333	94.667
23	14	0.200	1	0.200	0.779	98.753	1.333	96.000
24	6	0.140	1	0.140	0.546	99.299	1.333	97.333
25	11	0.090	1	0.090	0.351	99.649	1.333	98.667
26	12	0.090	1	0.090	0.351	100.000	1.333	100.000

Table 26

Summary of Linear Terrain Unit, Length, and Occurrence Data for West Germany Study Area 1 ([illegible])

ITEM NO.	TERRAIN UNIT	TOTAL LENGTH MILES	NO. OF OCCUR	MEAN LENGTH MILES	LENGTH %	LENGTH Σ%*	OCCURRENCE %	OCCURRENCE Σ%*
1	45	14.300	47	0.304	3.313	3.313	3.180	3.180
2	3	13.640	49	0.278	3.161	6.474	3.318	6.498
3	46	13.100	40	0.327	3.035	9.509	2.708	9.206
4	173	11.520	50	0.230	2.669	12.179	3.385	12.591
5	419	11.240	23	0.489	2.604	14.783	1.557	14.148
6	174	10.010	37	0.271	2.319	17.103	2.505	16.653
7	319	9.740	17	0.573	2.257	19.360	1.151	17.804
8	229	7.340	22	0.334	1.701	21.061	1.490	19.294
9	2	6.850	34	0.190	1.587	22.648	2.437	21.731
10	4	6.700	16	0.419	1.552	24.200	1.083	22.817
11	56	6.620	13	0.509	1.534	25.734	0.880	23.697
12	51	6.610	16	0.413	1.532	27.265	1.083	24.780
13	47	5.290	15	0.353	1.226	28.491	1.016	25.796
14	324	4.900	8	0.612	1.136	29.627	0.542	26.337
15	179	4.570	9	0.508	1.059	30.686	0.609	26.947
16	108	4.450	5	0.890	1.031	31.717	0.339	27.285
17	8	4.330	15	0.289	1.003	32.720	1.016	28.301
18	49	4.160	12	0.347	0.964	33.684	0.812	29.113
19	426	4.130	7	0.590	0.957	34.641	0.474	29.587
20	618	3.800	8	0.475	0.881	35.521	0.542	30.129
21	112	3.290	12	0.274	0.762	36.284	0.812	30.941
22	433	3.260	7	0.466	0.755	37.039	0.474	31.415
23	178	3.230	10	0.323	0.748	37.788	0.677	32.092
24	255	3.170	16	0.198	0.735	38.522	1.083	33.175
25	645	3.130	5	0.626	0.725	39.247	0.339	33.514
26	7	3.090	16	0.193	0.716	39.963	1.083	34.597
27	177	2.950	10	0.295	0.684	40.647	0.677	35.274
28	336	2.580	8	0.322	0.598	41.245	0.542	35.816
29	447	2.420	6	0.403	0.561	41.806	0.406	36.222
30	605	2.220	2	1.110	0.514	42.320	0.135	36.357
31	641	2.180	5	0.436	0.505	42.825	0.339	36.696
32	175	2.110	9	0.234	0.489	43.314	0.609	37.305
33	294	2.050	9	0.228	0.475	43.789	0.609	37.915
34	6	1.970	9	0.219	0.456	44.245	0.609	38.524
35	245	1.950	8	0.244	0.452	44.697	0.542	39.066
36	337	1.870	4	0.467	0.433	45.131	0.271	39.336
37	241	1.870	2	0.935	0.433	45.564	0.135	39.472
38	600	1.850	5	0.370	0.429	45.993	0.339	39.810
39	501	1.840	2	0.920	0.426	46.419	0.135	39.946
40	558	1.800	3	0.600	0.417	46.836	0.203	40.149
41	[illegible]	1.790	8	0.224	0.415	47.251	0.542	40.691
42	231	1.700	7	0.243	0.394	47.645	0.474	41.165
43	505	1.590	3	0.530	0.368	48.013	0.203	41.368
44	52	1.550	2	0.775	0.359	48.372	0.135	41.503
45	107	1.550	11	0.141	0.359	48.731	0.745	42.248
46	214	1.500	7	0.214	0.348	49.079	0.474	42.722
47	207	1.460	3	0.487	0.338	49.417	0.203	42.925
48	184	1.450	9	0.161	0.336	49.753	0.609	43.534
49	155	1.440	1	1.440	0.334	50.087	0.068	43.602
50	246	1.410	5	0.282	0.327	50.414	0.339	43.940
51	54	1.410	4	0.352	0.327	50.740	0.271	44.211
52	635	1.340	6	0.223	0.310	51.051	0.406	44.617
53	59	1.340	9	0.149	0.310	51.361	0.609	45.227
54	114	1.320	7	0.189	0.306	51.667	0.474	45.701
55	61	1.300	4	0.325	0.301	51.968	0.271	45.972
56	11	1.290	2	0.645	0.299	52.267	0.135	46.107
57	440	1.280	4	0.320	0.297	52.564	0.271	46.378
58	265	1.240	3	0.413	0.287	52.851	0.203	46.581
59	113	1.230	4	0.307	0.285	53.136	0.271	46.852
60	115	1.190	5	0.238	0.276	53.412	0.339	47.190
61	518	1.160	2	0.580	0.269	53.681	0.135	47.326
62	405	1.150	2	0.575	0.266	53.947	0.135	47.461
63	441	1.150	7	0.164	0.266	54.214	0.474	47.935
64	26[illegible]	1.150	6	0.192	0.266	54.480	0.406	48.341
65	6[illegible]	1.150	6	0.192	0.266	54.747	0.406	48.747
66	491	1.130	2	0.565	0.262	55.008	0.135	48.883
67	50[illegible]	1.130	3	0.377	0.262	55.270	0.203	49.086
68	621	1.130	1	1.130	0.262	55.532	0.068	49.154
69	513	1.100	2	0.550	0.255	55.787	0.135	49.289
70	45[illegible]	1.090	3	0.363	0.253	56.040	0.203	49.492
71	141	1.090	1	1.090	0.253	56.292	0.068	49.560
72	476	1.090	1	1.090	0.253	56.545	0.068	49.628
73	258	1.090	4	0.272	0.253	56.797	0.271	49.898
74	613	1.060	4	0.265	0.246	57.043	0.271	50.169
75	117	1.050	4	0.262	0.243	57.286	0.271	50.440
76	428	1.040	1	1.040	0.241	57.527	0.068	50.508
77	443	1.040	1	1.040	0.241	57.768	0.068	50.575
78	9	1.020	4	0.255	0.236	58.004	0.271	50.846
79	464	1.020	1	1.020	0.236	58.241	0.068	50.914
80	98	1.000	3	0.333	0.232	58.473	0.203	51.117
81	97	0.990	3	0.330	0.229	58.702	0.203	51.320
82	234	0.990	1	0.990	0.229	58.931	0.068	51.388
83	412	0.960	1	0.960	0.222	59.154	0.068	51.456
84	272	0.950	2	0.475	0.220	59.374	0.135	51.591
85	53	0.930	4	0.232	0.215	59.589	0.271	51.862
86	124	0.920	2	0.460	0.213	59.803	0.135	51.997
87	569	0.920	2	0.460	0.213	60.016	0.135	52.133
88	87	0.910	2	0.455	0.211	60.227	0.135	52.268
89	671	0.900	1	0.900	0.209	60.435	0.068	52.336
90	309	0.870	2	0.435	0.202	60.637	0.135	52.471
91	55	0.870	2	0.435	0.202	60.838	0.135	52.607
92	38	0.860	1	0.860	0.199	61.038	0.068	52.674
93	405	0.860	1	0.860	0.199	61.237	0.068	52.742
94	40[illegible]	0.860	2	0.430	0.199	61.436	0.135	52.877
95	615	0.850	1	0.850	0.197	61.633	0.068	52.945
96	445	0.840	4	0.210	0.195	61.828	0.271	53.216
97	56	0.820	3	0.273	0.190	62.018	0.203	53.419
98	543	0.810	4	0.202	0.188	62.205	0.271	53.690
99	675	0.810	2	0.405	0.188	62.393	0.135	53.825
100	434	0.810	2	0.405	0.188	62.581	0.135	53.961
101	502	0.810	1	0.810	0.188	62.768	0.068	54.028
102	504	0.800	1	0.800	0.185	62.954	0.068	54.096
103	456	0.790	2	0.395	0.183	63.137	0.135	54.232
104	424	0.780	2	0.390	0.181	63.318	0.135	54.367
105	611	0.770	2	0.385	0.178	63.496	0.135	54.502

* Accumulative total

(Continued)

(1 of 6 sheets)

Table 26 (Continued)

ITEM NO.	TERRAIN UNIT	TOTAL LENGTH MILES	NO. OF OCCUR	MEAN LENGTH MILES	LENGTH %	LENGTH Σ %	OCCURRENCE %	OCCURRENCE Σ %
106	73	0.770	3	0.257	0.170	63.674	0.203	54.709
107	423	0.770	1	0.770	0.170	63.843	0.068	54.777
108	426	0.760	1	0.760	0.170	64.014	0.068	54.845
109	411	0.760	2	0.380	0.170	64.183	0.135	54.980
110	133	0.760	3	0.253	0.170	64.353	0.203	55.179
111	483	0.760	1	0.760	0.170	64.523	0.068	55.247
112	176	0.740	1	0.740	0.171	64.729	0.068	55.315
113	497	0.740	1	0.740	0.171	64.900	0.068	55.383
114	84	0.740	2	0.370	0.171	65.072	0.135	55.518
115	022	0.740	1	0.740	0.171	65.243	0.068	55.586
116	033	0.740	1	0.740	0.171	65.415	0.068	55.653
117	342	0.730	1	0.730	0.169	65.584	0.068	55.721
118	183	0.730	7	0.104	0.169	65.753	0.474	56.195
119	431	0.730	3	0.243	0.169	65.922	0.203	56.398
120	461	0.720	3	0.240	0.167	66.089	0.203	56.601
121	459	0.720	4	0.180	0.167	66.256	0.271	56.872
122	398	0.720	1	0.720	0.167	66.423	0.068	56.940
123	349	0.710	2	0.355	0.165	66.587	0.135	57.075
124	023	0.710	1	0.710	0.165	66.752	0.068	57.143
125	458	0.710	2	0.355	0.165	66.916	0.135	57.278
126	032	0.690	1	0.690	0.160	67.076	0.068	57.346
127	316	0.690	1	0.690	0.160	67.236	0.068	57.414
128	424	0.680	3	0.227	0.158	67.393	0.203	57.617
129	367	0.670	2	0.335	0.155	67.549	0.135	57.752
130	156	0.670	2	0.335	0.155	67.704	0.135	57.888
131	172	0.670	3	0.223	0.155	67.859	0.203	58.091
132	62	0.660	4	0.165	0.153	68.012	0.271	58.362
133	125	0.660	2	0.330	0.153	68.165	0.135	58.497
134	13	0.660	3	0.220	0.153	68.318	0.203	58.700
135	493	0.660	3	0.220	0.153	68.471	0.203	58.903
136	026	0.660	1	0.660	0.153	68.624	0.068	58.971
137	492	0.650	2	0.325	0.151	68.774	0.135	59.106
138	360	0.650	1	0.650	0.151	68.925	0.068	59.174
139	119	0.640	1	0.640	0.148	69.073	0.068	59.242
140	479	0.630	1	0.630	0.146	69.219	0.068	59.309
141	134	0.630	1	0.630	0.146	69.365	0.068	59.377
142	195	0.620	1	0.620	0.144	69.509	0.068	59.445
143	79	0.620	2	0.310	0.144	69.653	0.135	59.580
144	164	0.620	3	0.207	0.144	69.796	0.203	59.783
145	438	0.620	1	0.620	0.144	69.940	0.068	59.851
146	240	0.620	2	0.310	0.144	70.084	0.135	59.986
147	025	0.600	2	0.300	0.139	70.223	0.135	60.122
148	92	0.590	1	0.590	0.137	70.359	0.068	60.190
149	371	0.590	1	0.590	0.137	70.496	0.068	60.257
150	34	0.590	2	0.295	0.137	70.633	0.135	60.393
151	147	0.590	2	0.295	0.137	70.770	0.135	60.528
152	462	0.580	1	0.580	0.134	70.904	0.068	60.596
153	376	0.580	1	0.580	0.134	71.038	0.068	60.664
154	425	0.570	2	0.285	0.132	71.170	0.135	60.799
155	404	0.570	5	0.114	0.132	71.302	0.339	61.137
156	187	0.570	2	0.285	0.132	71.435	0.135	61.273
157	361	0.570	2	0.285	0.132	71.567	0.135	61.408
158	491	0.560	1	0.560	0.130	71.696	0.068	61.476
159	297	0.560	4	0.140	0.130	71.826	0.271	61.747
160	82	0.560	1	0.560	0.130	71.956	0.068	61.814
161	395	0.560	1	0.560	0.130	72.086	0.068	61.882
162	35	0.560	1	0.560	0.129	72.215	0.068	61.950
163	94	0.550	1	0.550	0.127	72.343	0.068	62.018
164	149	0.550	2	0.275	0.127	72.470	0.135	62.153
165	197	0.550	1	0.550	0.127	72.598	0.068	62.221
166	89	0.550	3	0.183	0.127	72.725	0.203	62.424
167	455	0.550	2	0.275	0.127	72.853	0.135	62.559
168	186	0.550	3	0.183	0.127	72.980	0.203	62.762
169	041	0.550	1	0.550	0.127	73.107	0.068	62.830
170	367	0.540	1	0.540	0.125	73.233	0.068	62.898
171	396	0.540	1	0.540	0.125	73.358	0.068	62.965
172	348	0.540	2	0.270	0.125	73.483	0.135	63.101
173	379	0.540	1	0.540	0.125	73.608	0.068	63.169
174	490	0.540	1	0.540	0.125	73.733	0.068	63.236
175	399	0.530	2	0.265	0.123	73.856	0.135	63.372
176	58	0.530	2	0.265	0.123	73.979	0.135	63.507
177	162	0.520	1	0.520	0.120	74.099	0.068	63.575
178	154	0.520	2	0.260	0.120	74.220	0.135	63.710
179	347	0.520	4	0.130	0.120	74.340	0.271	63.981
180	160	0.520	2	0.260	0.120	74.461	0.135	64.116
181	169	0.520	2	0.260	0.120	74.581	0.135	64.252
182	308	0.520	2	0.260	0.120	74.702	0.135	64.387
183	363	0.510	1	0.510	0.118	74.820	0.068	64.455
184	479	0.510	1	0.510	0.118	74.938	0.068	64.523
185	474	0.510	3	0.170	0.118	75.056	0.203	64.726
186	488	0.510	1	0.510	0.118	75.174	0.068	64.794
187	471	0.510	1	0.510	0.118	75.293	0.068	64.861
188	369	0.500	2	0.250	0.116	75.408	0.135	64.997
189	469	0.500	1	0.500	0.116	75.524	0.068	65.064
190	25	0.490	2	0.245	0.114	75.638	0.135	65.200
191	375	0.490	2	0.245	0.114	75.751	0.135	65.335
192	016	0.490	1	0.490	0.114	75.865	0.068	65.403
193	312	0.490	1	0.490	0.114	75.978	0.068	65.471
194	421	0.480	1	0.480	0.111	76.090	0.068	65.538
195	190	0.480	2	0.240	0.111	76.201	0.135	65.674
196	126	0.480	1	0.480	0.111	76.312	0.068	65.741
197	433	0.480	1	0.480	0.111	76.423	0.068	65.809
198	401	0.480	1	0.480	0.111	76.535	0.068	65.877
199	407	0.480	1	0.480	0.111	76.646	0.068	65.944
200	321	0.480	1	0.480	0.111	76.757	0.068	66.012
201	137	0.480	1	0.480	0.111	76.868	0.068	66.080
202	377	0.480	1	0.480	0.111	76.979	0.068	66.148
203	122	0.470	2	0.235	0.109	77.088	0.135	66.283
204	36	0.470	1	0.470	0.109	77.197	0.068	66.351
205	180	0.470	4	0.117	0.109	77.306	0.271	66.622
206	144	0.470	1	0.470	0.109	77.415	0.068	66.690
207	346	0.470	2	0.235	0.109	77.524	0.135	66.825
208	474	0.460	1	0.460	0.107	77.631	0.068	66.893
209	466	0.460	1	0.460	0.107	77.737	0.068	66.960
210	363	0.460	1	0.460	0.107	77.844	0.068	67.028
211	397	0.460	1	0.460	0.107	77.950	0.068	67.096
212	434	0.460	1	0.460	0.107	78.057	0.068	67.163
213	399	0.460	1	0.460	0.107	78.163	0.068	67.231

(Continued)

(2 of 6 sheets)

Table 36 (Continued)

ITEM NO.	TERRAIN UNIT	TOTAL LENGTH MILES	NO. OF OCCUR	MEAN LENGTH MILES	LENGTH <<<<<< %	>>>>>> S %	OCCURRENCES <<<<<< %	>>>>>> S %
214	451	0.450	3	0.150	0.104	78.268	0.203	67.434
215	12	0.450	2	0.225	0.104	78.372	0.135	67.569
216	202	0.440	1	0.440	0.102	78.474	0.068	67.637
217	171	0.440	2	0.220	0.102	78.576	0.135	67.773
218	295	0.440	1	0.440	0.102	78.678	0.068	67.840
219	243	0.440	2	0.220	0.102	78.780	0.135	67.976
220	432	0.440	2	0.220	0.102	78.882	0.135	68.111
221	463	0.440	1	0.440	0.102	78.984	0.068	68.179
222	482	0.440	1	0.440	0.102	79.086	0.068	68.246
223	252	0.440	1	0.440	0.102	79.188	0.068	68.314
224	395	0.430	2	0.215	0.100	79.287	0.135	68.450
225	333	0.430	2	0.215	0.100	79.387	0.135	68.585
226	150	0.430	1	0.430	0.100	79.487	0.068	68.653
227	378	0.430	1	0.430	0.100	79.586	0.068	68.720
228	412	0.430	1	0.430	0.100	79.686	0.068	68.788
229	65	0.420	1	0.420	0.097	79.783	0.068	68.856
230	213	0.420	2	0.210	0.097	79.880	0.135	68.991
231	103	0.420	2	0.210	0.097	79.978	0.135	69.127
232	105	0.410	2	0.205	0.095	80.073	0.135	69.262
233	487	0.410	1	0.410	0.095	80.168	0.068	69.330
234	328	0.410	1	0.410	0.095	80.263	0.068	69.397
235	339	0.410	1	0.410	0.095	80.358	0.068	69.465
236	426	0.410	1	0.410	0.095	80.453	0.068	69.533
237	473	0.410	2	0.205	0.095	80.548	0.135	69.668
238	364	0.410	1	0.410	0.095	80.643	0.068	69.736
239	437	0.410	1	0.410	0.095	80.738	0.068	69.804
240	403	0.410	1	0.410	0.095	80.833	0.068	69.871
241	235	0.400	1	0.400	0.093	80.925	0.068	69.939
242	203	0.400	1	0.400	0.093	81.018	0.068	70.007
243	492	0.400	1	0.400	0.093	81.111	0.068	70.074
244	196	0.390	2	0.195	0.090	81.201	0.135	70.210
245	140	0.390	1	0.390	0.090	81.292	0.068	70.278
246	257	0.390	1	0.390	0.090	81.382	0.068	70.345
247	490	0.390	1	0.390	0.090	81.472	0.068	70.413
248	375	0.390	1	0.390	0.090	81.563	0.068	70.481
249	374	0.390	1	0.390	0.090	81.653	0.068	70.548
250	337	0.390	1	0.390	0.090	81.743	0.068	70.616
251	303	0.390	1	0.390	0.090	81.833	0.068	70.684
252	158	0.390	1	0.390	0.090	81.925	0.068	70.752
253	472	0.390	1	0.390	0.090	82.015	0.068	70.819
254	305	0.390	1	0.390	0.090	82.105	0.068	70.887
255	414	0.390	1	0.390	0.090	82.195	0.068	70.955
256	461	0.380	2	0.190	0.088	82.283	0.135	71.090
257	388	0.380	2	0.190	0.088	82.371	0.135	71.225
258	402	0.380	1	0.380	0.088	82.459	0.068	71.293
259	406	0.380	2	0.190	0.088	82.547	0.135	71.428
260	400	0.380	1	0.380	0.088	82.635	0.068	71.496
261	146	0.370	2	0.185	0.086	82.721	0.135	71.632
262	260	0.370	1	0.370	0.086	82.807	0.068	71.699
263	363	0.370	1	0.370	0.086	82.893	0.068	71.767
264	418	0.370	1	0.370	0.086	82.979	0.068	71.835
265	469	0.370	1	0.370	0.086	83.064	0.068	71.903
266	75	0.370	2	0.185	0.086	83.150	0.135	72.038
267	249	0.370	1	0.370	0.086	83.236	0.068	72.106
268	497	0.370	1	0.370	0.086	83.321	0.068	72.173
269	27	0.370	3	0.123	0.086	83.407	0.203	72.376
270	405	0.370	1	0.370	0.086	83.493	0.068	72.444
271	109	0.370	1	0.370	0.086	83.579	0.068	72.512
272	313	0.370	1	0.370	0.086	83.664	0.068	72.580
273	160	0.360	1	0.360	0.083	83.748	0.068	72.647
274	83	0.360	2	0.180	0.083	83.831	0.135	72.783
275	488	0.360	1	0.360	0.083	83.915	0.068	72.850
276	205	0.360	1	0.360	0.083	83.998	0.068	72.918
277	353	0.360	1	0.360	0.083	84.081	0.068	72.986
278	344	0.360	2	0.180	0.083	84.165	0.135	73.121
279	22	0.350	1	0.350	0.081	84.246	0.068	73.189
280	127	0.350	2	0.175	0.081	84.327	0.135	73.324
281	238	0.350	1	0.350	0.081	84.408	0.068	73.392
282	138	0.350	1	0.350	0.081	84.489	0.068	73.460
283	219	0.350	3	0.117	0.081	84.570	0.203	73.663
284	466	0.350	2	0.175	0.081	84.651	0.135	73.798
285	72	0.350	1	0.350	0.081	84.732	0.068	73.866
286	316	0.350	1	0.350	0.081	84.814	0.068	73.934
287	366	0.340	1	0.340	0.079	84.892	0.068	74.001
288	424	0.340	1	0.340	0.079	84.971	0.068	74.069
289	296	0.340	2	0.170	0.079	85.050	0.135	74.204
290	130	0.340	1	0.340	0.079	85.129	0.068	74.272
291	352	0.340	2	0.170	0.079	85.207	0.135	74.408
292	165	0.340	1	0.340	0.079	85.286	0.068	74.475
293	325	0.340	1	0.340	0.079	85.365	0.068	74.543
294	151	0.340	1	0.340	0.079	85.444	0.068	74.611
295	385	0.330	2	0.165	0.076	85.520	0.135	74.746
296	68	0.330	1	0.330	0.076	85.597	0.068	74.814
297	273	0.330	3	0.110	0.076	85.673	0.203	75.017
298	239	0.330	1	0.330	0.076	85.750	0.068	75.085
299	305	0.330	1	0.330	0.076	85.826	0.068	75.152
300	123	0.330	2	0.165	0.076	85.903	0.135	75.288
301	447	0.330	2	0.165	0.076	85.979	0.135	75.423
302	417	0.330	1	0.330	0.076	86.056	0.068	75.491
303	462	0.330	1	0.330	0.076	86.132	0.068	75.559
304	318	0.330	1	0.330	0.076	86.209	0.068	75.626
305	139	0.320	1	0.320	0.074	86.283	0.068	75.694
306	39	0.320	2	0.160	0.074	86.357	0.135	75.829
307	436	0.320	1	0.320	0.074	86.431	0.068	75.897
308	281	0.320	1	0.320	0.074	86.505	0.068	75.965
309	16	0.320	2	0.160	0.074	86.579	0.135	76.100
310	283	0.320	1	0.320	0.074	86.653	0.068	76.168
311	446	0.320	1	0.320	0.074	86.728	0.068	76.236
312	303	0.320	1	0.320	0.074	86.802	0.068	76.303
313	319	0.320	1	0.320	0.074	86.876	0.068	76.371
314	386	0.320	1	0.320	0.074	86.950	0.068	76.439
315	329	0.320	1	0.320	0.074	87.024	0.068	76.506
316	482	0.320	1	0.320	0.074	87.098	0.068	76.574
317	368	0.320	1	0.320	0.074	87.172	0.068	76.642
318	452	0.320	1	0.320	0.074	87.247	0.068	76.710
319	163	0.320	2	0.160	0.074	87.321	0.135	76.845
320	468	0.320	1	0.320	0.074	87.395	0.068	76.913
321	427	0.320	1	0.320	0.074	87.469	0.068	76.980

(Continued)

(3 of 6 sheets)

Table 86 (Continued)

ITEM NO.	TERRAIN UNIT	TOTAL LENGTH MILES	NO. OF OCCUR	MEAN LENGTH MILES	LENGTH %	LENGTH S %	OCCURRENCES %	OCCURRENCES S %
322	406	0.320	1	0.320	0.074	87.543	0.068	77.048
323	99	0.320	1	0.320	0.074	87.617	0.068	77.116
324	409	0.320	1	0.320	0.074	87.691	0.068	77.183
325	332	0.320	2	0.160	0.074	87.766	0.135	77.319
326	199	0.310	1	0.310	0.072	87.837	0.068	77.387
327	342	0.310	1	0.310	0.072	87.909	0.068	77.454
328	452	0.310	1	0.310	0.072	87.981	0.068	77.522
329	88	0.310	1	0.310	0.072	88.053	0.068	77.590
330	422	0.310	1	0.310	0.072	88.125	0.068	77.657
331	434	0.310	1	0.310	0.072	88.197	0.068	77.725
332	420	0.310	1	0.310	0.072	88.268	0.068	77.793
333	421	0.310	1	0.310	0.072	88.340	0.068	77.861
334	331	0.300	1	0.300	0.070	88.410	0.068	77.928
335	337	0.300	1	0.300	0.070	88.479	0.068	77.996
336	300	0.300	1	0.300	0.070	88.549	0.068	78.064
337	301	0.300	1	0.300	0.070	88.618	0.068	78.131
338	40	0.300	1	0.300	0.070	88.688	0.068	78.199
339	314	0.300	2	0.150	0.070	88.757	0.135	78.334
340	386	0.300	1	0.300	0.070	88.827	0.068	78.402
341	118	0.300	1	0.300	0.070	88.896	0.068	78.470
342	308	0.300	1	0.300	0.070	88.966	0.068	78.538
343	31	0.300	1	0.300	0.070	89.035	0.068	78.605
344	93	0.300	1	0.300	0.070	89.105	0.068	78.673
345	348	0.300	2	0.150	0.070	89.174	0.135	78.808
346	315	0.290	1	0.290	0.067	89.242	0.068	78.876
347	461	0.280	1	0.280	0.065	89.306	0.068	78.944
348	462	0.280	1	0.280	0.065	89.371	0.068	79.012
349	110	0.280	1	0.280	0.065	89.436	0.068	79.079
350	374	0.280	1	0.280	0.065	89.501	0.068	79.147
351	276	0.280	2	0.140	0.065	89.566	0.135	79.282
352	453	0.280	1	0.280	0.065	89.631	0.068	79.350
353	294	0.280	3	0.093	0.065	89.696	0.203	79.553
354	309	0.280	1	0.280	0.065	89.761	0.068	79.621
355	128	0.280	1	0.280	0.065	89.826	0.068	79.689
356	[illegible]	0.270	2	0.135	0.063	89.888	0.135	79.824
357	237	0.270	1	0.270	0.063	89.951	0.068	79.892
358	341	0.270	1	0.270	0.063	90.013	0.068	79.959
359	152	0.270	2	0.135	0.063	90.076	0.135	80.095
360	217	0.270	1	0.270	0.063	90.138	0.068	80.162
361	394	0.270	1	0.270	0.063	90.201	0.068	80.230
362	489	0.270	1	0.270	0.063	90.263	0.068	80.298
363	496	0.270	1	0.270	0.063	90.326	0.068	80.366
364	85	0.270	1	0.270	0.063	90.389	0.068	80.433
365	209	0.270	1	0.270	0.063	90.451	0.068	80.501
366	143	0.270	2	0.135	0.063	90.514	0.135	80.636
367	456	0.270	1	0.270	0.063	90.576	0.068	80.704
368	458	0.270	1	0.270	0.063	90.639	0.068	80.772
369	64	0.270	1	0.270	0.063	90.701	0.068	80.840
370	490	0.260	1	0.260	0.060	90.762	0.068	80.907
371	303	0.260	1	0.260	0.060	90.822	0.068	80.975
372	211	0.260	1	0.260	0.060	90.882	0.068	81.043
373	396	0.260	1	0.260	0.060	90.942	0.068	81.110
374	486	0.260	1	0.260	0.060	91.003	0.068	81.178
375	429	0.260	1	0.260	0.060	91.063	0.068	81.246
376	287	0.260	1	0.260	0.060	91.123	0.068	81.313
377	[illegible]	0.260	1	0.260	0.060	91.183	0.068	81.381
378	[illegible]	0.250	1	0.250	0.058	91.241	0.068	81.449
379	[illegible]	0.250	1	0.250	0.058	91.299	0.068	81.517
380	102	0.250	1	0.250	0.058	91.357	0.068	81.584
381	344	0.250	1	0.250	0.058	91.415	0.068	81.652
382	439	0.250	1	0.250	0.058	91.473	0.068	81.720
383	417	0.250	2	0.125	0.058	91.531	0.135	81.855
384	242	0.240	1	0.240	0.056	91.587	0.068	81.923
385	[illegible]	0.240	1	0.240	0.056	91.642	0.068	81.991
386	411	0.240	1	0.240	0.056	91.698	0.068	82.058
387	381	0.240	2	0.120	0.056	91.753	0.135	82.194
388	323	0.240	1	0.240	0.056	91.809	0.068	82.261
389	[illegible]	0.240	1	0.240	0.056	91.865	0.068	82.329
390	354	0.240	1	0.240	0.056	91.920	0.068	82.397
391	356	0.240	1	0.240	0.056	91.976	0.068	82.464
392	244	0.240	1	0.240	0.056	92.031	0.068	82.532
393	166	0.240	1	0.240	0.056	92.087	0.068	82.600
394	5	0.230	1	0.230	0.053	92.140	0.068	82.668
395	384	0.230	1	0.230	0.053	92.194	0.068	82.735
396	[illegible]	0.230	1	0.230	0.053	92.247	0.068	82.803
397	393	0.230	1	0.230	0.053	92.300	0.068	82.871
398	416	0.230	1	0.230	0.053	92.354	0.068	82.938
399	475	0.230	1	0.230	0.053	92.407	0.068	83.006
400	86	0.230	1	0.230	0.053	92.460	0.068	83.074
401	397	0.230	1	0.230	0.053	92.513	0.068	83.141
402	[illegible]	0.230	1	0.230	0.053	92.567	0.068	83.209
403	477	0.230	1	0.230	0.053	92.620	0.068	83.277
404	432	0.230	1	0.230	0.053	92.673	0.068	83.345
405	136	0.230	1	0.230	0.053	92.727	0.068	83.412
406	314	0.230	1	0.230	0.053	92.780	0.068	83.480
407	467	0.230	1	0.230	0.053	92.833	0.068	83.548
408	417	0.230	1	0.230	0.053	92.886	0.068	83.615
409	429	0.230	1	0.230	0.053	92.940	0.068	83.683
410	317	0.230	1	0.230	0.053	92.993	0.068	83.751
411	212	0.230	1	0.230	0.053	93.046	0.068	83.819
412	269	0.230	2	0.115	0.053	93.100	0.135	83.954
413	431	0.230	1	0.230	0.053	93.153	0.068	84.022
414	157	0.230	1	0.230	0.053	93.206	0.068	84.089
415	63	0.230	1	0.230	0.053	93.259	0.068	84.157
416	306	0.220	1	0.220	0.051	93.310	0.068	84.225
417	28	0.220	1	0.220	0.051	93.361	0.068	84.292
418	393	0.220	1	0.220	0.051	93.412	0.068	84.360
419	121	0.220	1	0.220	0.051	93.463	0.068	84.428
420	495	0.220	1	0.220	0.051	93.514	0.068	84.496
421	428	0.220	1	0.220	0.051	93.565	0.068	84.563
422	467	0.220	1	0.220	0.051	93.616	0.068	84.631
423	167	0.220	1	0.220	0.051	93.667	0.068	84.699
424	191	0.220	1	0.220	0.051	93.718	0.068	84.766
425	164	0.220	1	0.220	0.051	93.769	0.068	84.834
426	15	0.220	1	0.220	0.051	93.820	0.068	84.902
427	438	0.220	1	0.220	0.051	93.871	0.068	84.970
428	66	0.220	1	0.220	0.051	93.922	0.068	85.037
429	373	0.220	1	0.220	0.051	93.973	0.068	85.105

(Continued)

(4 of 6 sheets)

Table 36 (Continued)

ITEM NO.	TERRAIN UNIT	TOTAL LENGTH MILES	NO. OF OCCUR	MEAN LENGTH MILES	LENGTH %	LENGTH S %	OCCURRENCES %	OCCURRENCES S %
430	9	.210	1	0.210	0.049	94.022	0.068	85.171
431	545	0.210	1	0.210	0.049	94.070	0.068	85.240
432	78	.210	1	0.210	0.049	94.119	0.068	85.308
433	32	0.210	1	0.210	0.049	94.168	0.068	85.376
434	459	.210	1	0.210	0.049	94.216	0.068	85.443
435	422	0.210	1	0.210	0.049	94.265	0.068	85.511
436	63	0.210	1	0.210	0.049	94.314	0.068	85.579
437	591	0.210	1	0.210	0.049	94.362	0.068	85.647
438	278	0.210	1	0.210	0.049	94.411	0.068	85.714
439	279	0.210	1	0.210	0.049	94.460	0.068	85.782
440	153	0.210	1	0.210	0.049	94.508	0.068	85.850
441	11[illegible]	0.200	1	0.200	0.046	94.555	0.068	85.917
442	406	0.200	1	0.200	0.046	94.601	0.068	85.985
443	24	0.200	1	0.200	0.046	94.647	0.068	86.053
444	492	0.200	1	0.200	0.046	94.694	0.068	86.121
445	420	0.200	1	0.200	0.046	94.740	0.068	86.188
446	567	0.200	1	0.200	0.046	94.786	0.068	86.256
447	439	0.200	1	0.200	0.046	94.833	0.068	86.324
448	271	0.200	1	0.200	0.046	94.879	0.068	86.391
449	263	0.200	1	0.200	0.046	94.926	0.068	86.459
450	193	0.200	2	0.100	0.046	94.972	0.135	86.594
451	36	0.200	1	0.200	0.046	95.018	0.068	86.662
452	26	0.200	1	0.200	0.046	95.065	0.068	86.730
453	404	0.200	1	0.200	0.046	95.111	0.068	86.798
454	43	0.200	1	0.200	0.046	95.157	0.068	86.865
455	501	0.200	1	0.200	0.046	95.204	0.068	86.933
456	547	0.190	1	0.190	0.044	95.248	0.068	87.001
457	57[illegible]	0.190	1	0.190	0.044	95.292	0.068	87.068
458	18	0.190	1	0.190	0.044	95.336	0.068	87.136
459	415	0.190	1	0.190	0.044	95.380	0.068	87.204
460	77	0.190	1	0.190	0.044	95.424	0.068	87.271
461	408	0.190	2	0.095	0.044	95.468	0.135	87.407
462	227	0.190	1	0.190	0.044	95.512	0.068	87.475
463	1[illegible]	0.190	2	0.095	0.044	95.556	0.135	87.610
464	44	0.190	1	0.190	0.044	95.600	0.068	87.678
465	444	0.190	1	0.190	0.044	95.644	0.068	87.745
466	535	0.190	1	0.190	0.044	95.688	0.068	87.813
467	142	0.180	1	0.180	0.042	95.730	0.068	87.881
468	611	0.180	1	0.180	0.042	95.771	0.068	87.949
469	449	0.180	2	0.090	0.042	95.813	0.135	88.084
470	572	0.180	1	0.180	0.042	95.855	0.068	88.152
471	102	0.180	1	0.180	0.042	95.896	0.068	88.219
472	401	.180	1	0.180	0.042	95.938	0.068	88.287
473	550	0.180	1	0.180	0.042	95.980	0.068	88.355
474	223	0.170	1	0.170	0.039	96.019	0.068	88.422
475	425	0.170	1	0.170	0.039	96.059	0.068	88.490
476	67	0.170	1	0.170	0.039	96.098	0.068	88.558
477	96	0.170	1	0.170	0.039	96.137	0.068	88.626
478	405	0.170	1	0.170	0.039	96.177	0.068	88.693
479	309	0.170	1	0.170	0.039	96.216	0.068	88.761
480	109	0.170	1	0.170	0.039	96.256	0.068	88.829
481	126	0.170	1	0.170	0.039	96.295	0.068	88.896
482	448	0.170	1	0.170	0.039	96.334	0.068	88.964
483	14[illegible]	0.170	1	0.170	0.039	96.374	0.068	89.032
484	555	0.170	1	0.170	0.039	96.413	0.068	89.100
485	559	0.160	1	0.160	0.037	96.450	0.068	89.167
486	476	0.160	1	0.160	0.037	96.487	0.068	89.235
487	6[illegible]	0.160	2	0.080	0.037	96.524	0.135	89.370
488	71	0.160	1	0.160	0.037	96.561	0.068	89.438
489	192	0.160	2	0.080	0.037	96.598	0.135	89.573
490	403	0.160	1	0.160	0.037	96.636	0.068	89.641
491	8[illegible]	0.160	1	0.160	0.037	96.673	0.068	89.709
492	159	0.160	1	0.160	0.037	96.710	0.068	89.777
493	14	0.160	1	0.160	0.037	96.747	0.068	89.844
494	530	0.160	1	0.160	0.037	96.784	0.068	89.912
495	031	0.160	1	0.160	0.037	96.821	0.068	89.980
496	525	0.160	1	0.160	0.037	96.858	0.068	90.047
497	530	0.160	1	0.160	0.037	96.895	0.068	90.115
498	531	0.160	1	0.160	0.037	96.932	0.068	90.183
499	035	0.160	1	0.160	0.037	96.969	0.068	90.251
500	015	0.160	1	0.160	0.037	97.006	0.068	90.318
501	135	0.160	1	0.160	0.037	97.043	0.068	90.386
502	312	0.160	1	0.160	0.037	97.080	0.068	90.454
503	111	0.160	1	0.160	0.037	97.118	0.068	90.521
504	365	0.150	1	0.150	0.035	97.152	0.068	90.589
505	493	0.150	1	0.150	0.035	97.187	0.068	90.657
506	41	0.150	1	0.150	0.035	97.222	0.068	90.724
507	132	0.140	1	0.140	0.032	97.254	0.068	90.792
508	435	0.140	1	0.140	0.032	97.287	0.068	90.860
509	009	0.140	1	0.140	0.032	97.319	0.068	90.928
510	171	0.140	2	0.070	0.032	97.352	0.135	91.063
511	406	0.140	1	0.140	0.032	97.384	0.068	91.131
512	241	0.130	1	0.130	0.030	97.414	0.068	91.199
513	604	0.130	1	0.130	0.030	97.444	0.068	91.266
514	284	0.130	1	0.130	0.030	97.474	0.068	91.334
515	288	0.130	1	0.130	0.030	97.504	0.068	91.401
516	52[illegible]	0.130	1	0.130	0.030	97.535	0.068	91.469
517	524	0.130	1	0.130	0.030	97.565	0.068	91.537
518	512	0.130	1	0.130	0.030	97.595	0.068	91.605
519	494	0.130	1	0.130	0.030	97.625	0.068	91.672
520	49[illegible]	0.130	1	0.130	0.030	97.655	0.068	91.740
521	491	0.130	1	0.130	0.030	97.685	0.068	91.808
522	76	0.130	1	0.130	0.030	97.715	0.068	91.875
523	499	0.120	1	0.120	0.028	97.743	0.068	91.943
524	437	0.120	1	0.120	0.028	97.771	0.068	92.011
525	438	0.120	1	0.120	0.028	97.799	0.068	92.079
526	37	0.120	1	0.120	0.028	97.827	0.068	92.146
527	619	0.120	1	0.120	0.028	97.854	0.068	92.214
528	534	0.120	1	0.120	0.028	97.882	0.068	92.282
529	459	0.120	1	0.120	0.028	97.910	0.068	92.349
530	568	0.120	1	0.120	0.028	97.938	0.068	92.417
531	442	0.120	1	0.120	0.028	97.966	0.068	92.485
532	382	0.120	1	0.120	0.028	97.993	0.068	92.552
533	2[illegible]7	0.120	1	0.120	0.028	98.021	0.068	92.620
534	299	0.120	1	0.120	0.028	98.049	0.068	92.688
535	305	0.120	1	0.120	0.028	98.077	0.068	92.756
536	414	0.120	1	0.120	0.028	98.105	0.068	92.823
537	74	0.120	1	0.120	0.028	98.132	0.068	92.891

(Continued)

Table 36 (Concluded)

ITEM NO.	TERRAIN UNIT	TOTAL LENGTH MILES	NO. OF OCCUR	MEAN LENGTH MILES	LENGTH <<<<<< %	>>>>>> Σ %	OCCURRENCES <<<<<< %	>>>>>> Σ %
538	468	0.120	1	0.120	0.028	98.160	0.068	92.958
539	71	0.120	1	0.120	0.028	98.188	0.068	93.026
540	454	0.120	1	0.120	0.028	98.216	0.068	93.094
541	181	0.120	1	0.120	0.028	98.244	0.068	93.162
542	[illegible]	0.120	1	0.120	0.028	98.271	0.068	93.230
543	161	0.120	1	0.120	0.028	98.299	0.068	93.297
544	457	0.120	1	0.120	0.028	98.327	0.068	93.365
545	470	0.120	1	0.120	0.028	98.355	0.068	93.433
546	494	0.120	1	0.120	0.028	98.383	0.068	93.500
547	[illegible]	0.110	1	0.110	0.025	98.408	0.068	93.568
548	427	0.110	1	0.110	0.025	98.434	0.068	93.636
549	20	0.110	1	0.110	0.025	98.459	0.068	93.703
550	453	0.110	1	0.110	0.025	98.485	0.068	93.771
551	[illegible]	0.110	1	0.110	0.025	98.510	0.068	93.839
552	33	0.110	1	0.110	0.025	98.536	0.068	93.907
553	422	0.100	1	0.100	0.023	98.559	0.068	93.974
554	415	0.100	1	0.100	0.023	98.582	0.068	94.042
555	526	0.100	1	0.100	0.023	98.605	0.068	94.110
556	562	0.100	1	0.100	0.023	98.628	0.068	94.177
557	466	0.100	1	0.100	0.023	98.651	0.068	94.245
558	573	0.100	1	0.100	0.023	98.675	0.068	94.313
559	81	0.100	1	0.100	0.023	98.698	0.068	94.381
560	91	0.100	1	0.100	0.023	98.721	0.068	94.448
561	[illegible]	0.100	1	0.100	0.023	98.744	0.068	94.516
562	135	0.090	1	0.090	0.021	98.765	0.068	94.584
563	439	0.090	1	0.090	0.021	98.786	0.068	94.651
564	592	0.090	1	0.090	0.021	98.807	0.068	94.719
565	42	0.090	1	0.090	0.021	98.828	0.068	94.787
566	69	0.090	1	0.090	0.021	98.848	0.068	94.854
567	194	0.090	1	0.090	0.021	98.869	0.068	94.922
568	57	0.090	1	0.090	0.021	98.890	0.068	94.990
569	440	0.090	2	0.045	0.021	98.911	0.135	95.125
570	145	0.090	1	0.090	0.021	98.932	0.068	95.193
571	407	0.090	1	0.090	0.021	98.953	0.068	95.261
572	188	0.090	1	0.090	0.021	98.974	0.068	95.328
573	439	0.090	1	0.090	0.021	98.994	0.068	95.396
574	551	0.090	1	0.090	0.021	99.015	0.068	95.464
575	106	0.090	1	0.090	0.021	99.036	0.068	95.531
576	504	0.090	1	0.090	0.021	99.057	0.068	95.599
577	420	0.090	1	0.090	0.021	99.078	0.068	95.667
578	007	0.090	1	0.090	0.021	99.099	0.068	95.735
579	430	0.090	1	0.090	0.021	99.119	0.068	95.802
580	651	0.090	1	0.090	0.021	99.140	0.068	95.870
581	533	0.090	1	0.090	0.021	99.161	0.068	95.938
582	[illegible]	0.090	1	0.090	0.021	99.182	0.068	96.005
583	264	0.090	1	0.090	0.021	99.203	0.068	96.073
584	[illegible]	0.090	1	0.090	0.021	99.224	0.068	96.141
585	564	0.090	1	0.090	0.021	99.245	0.068	96.209
586	129	0.080	1	0.080	0.019	99.263	0.068	96.276
587	472	0.080	1	0.080	0.019	99.282	0.068	96.344
588	549	0.080	1	0.080	0.019	99.300	0.068	96.412
589	421	0.080	1	0.080	0.019	99.319	0.068	96.479
590	[illegible]	0.080	1	0.080	0.019	99.337	0.068	96.547
591	475	0.080	1	0.080	0.019	99.356	0.068	96.615
592	553	0.080	1	0.080	0.019	99.374	0.068	96.682
593	594	0.080	1	0.080	0.019	99.393	0.068	96.750
594	434	0.080	1	0.080	0.019	99.411	0.068	96.818
595	522	0.080	1	0.080	0.019	99.430	0.068	96.886
596	557	0.080	1	0.080	0.019	99.449	0.068	96.953
597	23	0.080	1	0.080	0.019	99.467	0.068	97.021
598	536	0.080	1	0.080	0.019	99.486	0.068	97.089
599	59	0.070	1	0.070	0.016	99.502	0.068	97.156
600	578	0.070	1	0.070	0.016	99.518	0.068	97.224
601	95	0.070	1	0.070	0.016	99.534	0.068	97.292
602	[illegible]	0.070	1	0.070	0.016	99.550	0.068	97.360
603	538	0.070	1	0.070	0.016	99.567	0.068	97.427
604	442	0.070	1	0.070	0.016	99.583	0.068	97.495
605	1	0.070	1	0.070	0.016	99.599	0.068	97.563
606	477	0.060	1	0.060	0.014	99.613	0.068	97.630
607	465	0.060	1	0.060	0.014	99.627	0.068	97.698
608	502	0.060	1	0.060	0.014	99.641	0.068	97.766
609	[illegible]	0.060	1	0.060	0.014	99.655	0.068	97.833
610	487	0.060	1	0.060	0.014	99.669	0.068	97.901
611	436	0.060	1	0.060	0.014	99.683	0.068	97.969
612	523	0.060	1	0.060	0.014	99.696	0.068	98.037
613	[illegible]	0.060	1	0.060	0.014	99.710	0.068	98.104
614	427	0.060	1	0.060	0.014	99.724	0.068	98.172
615	527	0.050	1	0.050	0.012	99.736	0.068	98.240
616	528	0.050	1	0.050	0.012	99.747	0.068	98.307
617	443	0.050	1	0.050	0.012	99.759	0.068	98.375
618	530	0.050	1	0.050	0.012	99.771	0.068	98.443
619	490	0.050	1	0.050	0.012	99.782	0.068	98.510
620	[illegible]	0.050	1	0.050	0.012	99.794	0.068	98.578
621	17	0.050	1	0.050	0.012	99.805	0.068	98.646
622	21	0.050	1	0.050	0.012	99.817	0.068	98.714
623	[illegible]	0.050	1	0.050	0.012	99.829	0.068	98.781
624	521	0.050	1	0.050	0.012	99.840	0.068	98.849
625	490	0.050	1	0.050	0.012	99.852	0.068	98.917
626	491	0.050	1	0.050	0.012	99.863	0.068	98.984
627	418	0.050	1	0.050	0.012	99.875	0.068	99.052
628	555	0.050	1	0.050	0.012	99.886	0.068	99.120
629	457	0.050	1	0.050	0.012	99.898	0.068	99.188
630	19	0.050	1	0.050	0.012	99.910	0.068	99.255
631	041	0.050	1	0.050	0.012	99.921	0.068	99.323
632	131	0.040	1	0.040	0.009	99.930	0.068	99.391
633	013	0.040	1	0.040	0.009	99.940	0.068	99.458
634	565	0.040	1	0.040	0.009	99.949	0.068	99.526
635	477	0.040	1	0.040	0.009	99.958	0.068	99.594
636	036	0.040	1	0.040	0.009	99.968	0.068	99.661
637	29	0.030	1	0.030	0.007	99.975	0.068	99.729
638	[illegible]	0.030	1	0.030	0.007	99.981	0.068	99.797
639	418	0.030	1	0.030	0.007	99.988	0.068	99.864
640	429	0.030	1	0.030	0.007	99.995	0.068	99.932
641	420	0.020	1	0.020	0.005	100.000	0.068	100.000

(6 of 6 sheets)

Table B7

Summary of Areal Occupancy and Frequency of Occurrence of Areal Terrain Factor Classes Used to Describe Soil, Slope, Surface Roughness, and Visibility

Soil Type			Soil Strength Wet Season			Slope			Surface Roughness			Visibility		
Class No.	Percent Area	Percent Occurrence	Class No.	Percent Area	Percent Occurrence	Class No.	Percent Area	Percent Occurrence	Class No.	Percent Area	Percent Occurrence	Class No.	Percent Area	Percent Occurrence
						West Germany Transect (WGT)								
1	100.00	100.0	4	58.3	67.4	3	29.3	26.7	2	77.1	73.5	2	73.3	80.3
			6	37.8	27.8	4	27.2	32.6	3	18.5	17.8	4	25.7	17.8
			7	2.7	3.1	2	25.4	18.4	4	4.4	8.8	7	0.5	0.7
			5	1.2	1.7	5	12.0	16.8				6	0.4	1.0
						6	3.3	3.8				5	0.1	0.1
						1	2.6	1.3						
						7	0.2	0.4						
						Fort Knox (FK1)								
1	100.00	100.0	6	41.8	40.2	2	38.8	38.6	3	45.4	43.3	2	61.2	53.9
			7	18.8	19.3	1	38.1	25.5	2	31.3	34.0	3	25.3	29.6
			5	13.7	16.5	3	16.3	24.9	1	14.9	12.8	5	6.3	8.4
			8	11.8	13.4	4	4.7	8.4	4	7.4	7.5	4	4.8	4.4
			9	11.8	10.3	6	2.1	2.5	5	1.0	2.5	7	2.0	3.4
			10	2.1	0.3							6	0.4	0.3
						Fort Knox (FK2)								
1	100.00	100.0	5	41.0	38.4	3	51.4	38.8	3	60.4	61.2	2	72.5	62.1
			7	20.0	20.1	2	41.6	49.1	2	21.4	21.4	3	19.8	25.4
			4	16.7	22.8	4	5.0	9.4	5	9.4	7.1	4	5.7	8.9
			6	9.0	9.8	1	1.6	1.8	4	8.8	10.3	5	1.3	2.2
			8	5.6	2.7	5	0.4	0.9				8	0.7	1.3
			3	5.6	4.5									
			2	1.9	1.8									

Table B8

Summary of Areal Occupancy and Frequency of Occurrence of Areal Terrain Factor Classes Used to Describe Obstacles

Obstacle Approach Angle			Obstacle Vert Magnitude			Obstacle Base Width			Obstacle Length			Obstacle Spacing			Obstacle Spacing Type		
Class No.	Percent Area	Percent Occurrence	Class No.	Percent Area	Percent Occurrence	Class No.	Percent Area	Percent Occurrence	Class No.	Percent Area	Percent Occurrence	Class No.	Percent Area	Percent Occurrence	Class No.	Percent Area	Percent Occurrence
								West Germany Transect (WGT)									
9	52.6	43.2	2	54.7	47.5	4	53.4	44.1	6	41.7	48.7	8	34.6	46.9	1	74.3	76.1
7	26.6	19.3	3	27.7	22.1	1	26.5	18.9	5	27.3	21.7	1	39.4	40.7	2	25.7	23.5
5	8.7	19.2	1	16.6	28.7	5	16.3	30.3	7	25.7	23.9	2	5.5	11.7			
14	5.7	7.0	4	0.5	0.7	3	3.8	6.6	1	5.3	5.7	3	0.4	0.6			
3	5.2	9.7	7	0.3	0.6	2	0.1	0.1				5	0.1	0.1			
11	0.7	1.1	5	0.2	0.3												
1	0.3	0.4															
13	0.1	0.2															
								Fort Knox (FK1)									
13	50.0	46.7	1	71.6	73.2	5	43.4	42.4	1	32.6	32.4	2	44.0	42.4	1	100.0	100.0
1	32.6	32.4	2	12.6	13.7	1	34.8	35.8	6	28.2	23.4	1	38.8	37.4			
8	6.9	8.1	6	7.4	5.9	4	12.3	10.3	5	22.4	25.2	4	5.4	4.4			
14	4.6	5.6	3	6.8	5.9	3	5.8	6.2	2	12.0	12.1	3	4.0	3.4			
10	3.8	5.3	4	1.7	1.2	2	3.6	5.3	3	2.5	4.1	6	3.3	5.0			
11	1.4	1.9							4	2.4	2.8	5	2.9	6.2			
												7	1.6	1.2			
								Fort Knox (FK2)									
13	43.6	40.6	2	41.6	38.8	5	38.1	33.9	6	70.3	70.5	2	42.5	41.5	1	93.0	90.2
12	21.0	22.8	1	19.0	17.9	1	28.7	35.3	2	9.8	6.7	3	28.7	29.0	2	7.0	9.8
1	10.4	12.5	4	17.7	24.1	3	20.6	14.3	1	9.8	11.6	1	20.0	22.8			
14	10.0	12.5	6	8.6	6.2	4	12.5	16.1	5	9.2	9.4	5	8.6	6.2			
8	6.7	3.1	3	7.4	9.4	2	0.1	0.4	4	0.6	0.9	4	0.2	0.4			
10	4.2	6.7	7	4.5	2.7				3	0.2	0.4						
11	4.0	1.8	5	1.2	0.9				7	0.1	0.4						

Table B9

Summary of Areal Occupancy and Frequency of Occurrence of Areal Terrain Factor Class
Used to Describe Vegetation

Stem Diameter Class 1			Stem Diameter Class 2			Stem Diameter Class 3			Stem Diameter Class 4			Stem Diameter Class 5			St
Spacing Class No.	Percent Area	Percent Occurrence	Spacing Class No.	Percent Area	Percent Occurrence	Spacing Class No.	Percent Area	Percent Occurrence	Spacing Class No.	Percent Area	Percent Occurrence	Spacing Class No.	Percent Area	Percent Occurrence	Spacing Class No.
												West Germany Transect (WGT)			
8	99.6	99.2	2	66.8	66.0	2	68.0	68.0	2	68.3	68.9	2	73.8	81.0	2
1	0.4	0.8	7	26.2	19.2	7	25.8	18.5	7	25.6	17.8	6	25.4	17.3	6
			3	5.0	10.4	3	5.1	10.5	3	5.0	10.4	1	0.4	0.8	1
			8	1.0	1.4	4	0.4	1.4	4	0.4	1.2	3	0.2	0.3	3
			4	0.4	1.4	1	0.4	0.8	1	0.4	0.8	4	0.1	0.4	4
			1	0.4	0.8	5	0.2	0.6	5	0.1	0.5	5	0.1	0.2	5
			5	0.2	0.5	6	0.1	0.3	6	0.1	0.3				
			6	0.1	0.3										
												Fort Knox (FK1)			
7	47.6	41.1	7	54.9	50.2	6	37.2	32.4	5	34.0	30.8	5	28.7	25.2	1
8	26.6	34.9	1	22.1	19.3	7	29.8	33.3	6	28.7	30.8	1	24.8	23.4	5
1	22.1	19.3	8	18.2	23.7	1	22.1	19.3	1	22 1	19.3	6	22.6	23.1	4
5	3.8	4.7	5	3.8	4.7	8	5.8	8.4	7	13.5	16.2	4	16.1	16.5	6
			6	1.1	2.2	5	5.0	6.5	2	1.1	1.6	3	7.0	10.0	2
									4	0.6	1.2	2	0.6	1.2	3
												7	0.3	0.6	
												Fort Knox (FK2)			
1	45.9	52.2	1	45.8	52.2	1	46.2	52.7	1	45.8	52.2	1	46.6	53.6	1
7	28.9	23.7	7	36.8	33.0	6	27.5	26.4	6	26.4	19.6	5	30.3	25.0	5
8	21.8	20.1	8	13.9	10.7	7	12.8	8.5	5	16.3	17.9	6	8.9	8.0	7
5	1.7	1.3	5	1.7	1.3	8	8.8	7.1	8	8.0	5.4	8	7.0	4.0	4
6	1.3	1.8	6	1.3	1.8	5	2.5	3.1	4	2.2	2.2	4	5.2	6.7	6
4	0.4	0.9	4	0.4	0.9	4	2.2	2.2	7	1.4	2.7	3	1.0	1.3	3
												7	0.9	1.3	

Table B10

Summary of Linear Occupancy and Frequency of Occurrence of Linear Terrain Factor C

Soil Type			Soil Strength Wet Season			Left Approach Angle			Differential Bank Height or Verticle Magnitude			Right Approach Angle			Low Bank Height or Vertical Magnit		
Class No.	Percent Area	Percent Occurrence	Class No.	Percent Area	Percent Occurrence	Class No.	Percent Area	Percent Occurrence	Class No.	Percent Area	Percent Occurrence	Class No.	Percent Area	Percent Occurrence	Class No.	Percent Area	Pe Occ
												West Germany Transect (WGT)					
2	100.0	100.0	1	100.0	100.0	3	18.3	17.6	1	64.8	64.9	3	18.6	16.8	1	45.6	[illegible]
						7	12.8	15.3	6	11.8	12.0	7	14.0	15.0	2	33.2	[illegible]
						1	10.7	12.4	2	8.0	7.6	1	10.4	12.2	3	11.4	[illegible]
						9	9.3	10.6	7	6.6	6.4	11	9.2	9.4	4	7.6	[illegible]
						11	9.2	9.2	3	6.2	6.0	9	7.7	10.8	7	1.1	[illegible]
						5	8.0	8.0	4	0.7	0.9	5	7.6	8.3	6	1.0	[illegible]
						12	6.6	4.7	5	0.6	0.5	12	6.3	4.5	8	0.1	[illegible]
						13	4.8	5.0	9	0.6	0.7	13	5.3	6.0	5	0.1	[illegible]
						10	4.0	2.4	8	0.6	0.9	10	4.6	2.8			
						8	3.4	2.8				8	3.1	2.8			
						15	2.6	3.5				14	2.7	2.2			
						16	2.5	2.3				16	2.5	2.4			
						14	2.4	2.0				15	2.3	2.7			
						20	2.1	1.3				20	1.8	1.1			
						18	1.3	1.0				18	1.6	1.2			
						21	0.9	0.9				21	0.8	0.7			
						17	0.7	0.6				17	0.8	0.7			
						19	0.3	0.3				19	0.6	0.3			
						6	0.1	0.1				6	0.1	0.2			
												Fort Knox (FK1)					
1*	87.5	96.1	6	49.[illegible]	62.7	12	33.5	33.3	1	47.3	29.4	12	27.0	15.7	1	43.4	45.
2	12.4	3.9	1	38.6	17.6	6	23.6	5.8	2	29.7	49.0	8	24.7	39.2	2	18.1	19.
			8	8.7	11.8	10	19.3	35.3	9	10.8	2.0	6	19.1	7.8	8	16.0	3.
			5	3.2	7.8	8	12.5	21.6	3	6.5	17.6	10	18.2	33.3	3	10.7	13.
						14	11.0	3.9	6	5.6	2.0	14	11.0	3.9	4	9.8	17.
												Fort Knox (FK2)					
1	100.0	100.0	1	28.1	6.7	6	39.1	24.0	2	54.8	80.0	8	20.3	18.7	1	46.2	17.
			5	23.8	26.7	11	19.8	4.0	1	33.2	12.0	11	19.8	4.0	2	41.7	65.
			4	12.9	46.7	12	15.7	48.0	6	5.5	4.0	12	15.4	48.0	3	10.3	16.
			8	10.3	5.3	14	8.7	14.7	7	3.5	1.3	6	15.3	10.7	4	1.8	1.
			9	9.9	6.7	9	4.8	1.3	3	1.8	1.3	4	8.5	4.0			
			10	[illegible].2	1.3	7	3.6	1.3	4	1.2	1.3	10	6.9	6.7			
			6	5.9	5.3	8	3.6	1.3				14	5.5	5.3			
			7	1.9	1.3	10	3.0	4.0				9	4.8	1.3			
						4	1.8	1.3				7	3.6	1.3			

*Trails.

A

Table B9

...l Occupancy and Frequency of Occurrence of Areal Terrain Factor Classes Used to Describe Vegetation

...ing ...se ...	Stem Diameter Class 4 Percent Area	Stem Diameter Class 4 Percent Occurrence	Stem Diameter Class 5 Spacing Class No.	Stem Diameter Class 5 Percent Area	Stem Diameter Class 5 Percent Occurrence	Stem Diameter Class 6 Spacing Class No.	Stem Diameter Class 6 Percent Area	Stem Diameter Class 6 Percent Occurrence	Stem Diameter Class 7 Spacing Class No.	Stem Diameter Class 7 Percent Area	Stem Diameter Class 7 Percent Occurrence	Stem Diameter Class 8 Spacing Class No.	Stem Diameter Class 8 Percent Area	Stem Diameter Class 8 Percent Occurrence
		West Germany Transect (WGT)												
[illegible]	68.3	68.9	2	73.8	81.0	2	74.0	81.4	2	74.6	82.7	2	74.7	82.8
[illegible]	25.6	17.8	6	25.4	17.3	6	25.3	17.1	5	24.8	16.2	5	24.8	16.1
[illegible]	5.0	10.4	1	0.4	0.8	1	0.4	0.8	1	0.4	0.8	1	0.4	0.8
[illegible]	0.4	1.2	3	0.2	0.3	3	0.2	0.4	4	0.1	0.3	4	0.1	0.2
[illegible]	0.4	0.8	4	0.1	0.4	4	0.1	0.3	3	0.0	0.1	3	0.1	0.2
[illegible]	0.1	0.5	5	0.1	0.2	5	0.0	0.1						
[illegible]	0.1	0.3												
		Fort Knox (FK1)												
[illegible]	34.0	30.8	5	28.7	25.2	1	33.0	35.2	1	37.6	42.4	1	49.3	54.8
[illegible]	28.7	30.8	1	24.8	23.4	5	22.5	15.6	5	25.0	17.1	5	18.6	10.6
[illegible]	22.1	19.3	6	22.6	23.1	4	18.6	20.6	2	11.8	12.5	4	13.2	14.6
[illegible]	13.5	16.2	4	16.1	16.5	6	12.1	14.0	4	11.6	14.6	3	12.7	11.2
[illegible]	1.1	1.6	3	7.0	10.0	2	10.1	8.7	3	6.8	6.5	6	5.3	6.9
[illegible]	0.6	1.2	2	0.6	1.2	3	3.6	5.9	6	5.3	6.9	2	0.9	1.9
			7	0.3	0.6									
		Fort Knox (FK2)												
[illegible]	45.8	52.2	1	46.6	53.6	1	53.2	59.4	1	53.4	59.8	1	53.8	59.8
[illegible]	26.4	19.6	5	30.3	25.0	5	24.9	21.0	5	25.0	21.4	4	25.1	17.4
[illegible]	16.3	17.9	6	8.9	8.0	7	8.0	5.4	7	8.0	5.4	6	12.1	10.3
[illegible]	8.0	5.4	8	7.0	4.0	4	7.4	5.8	4	7.3	5.4	5	7.2	9.4
[illegible]	2.2	2.2	4	5.2	6.7	6	4.3	5.4	6	4.1	4.9	3	2.3	3.1
[illegible]	1.4	2.7	3	1.0	1.3	3	2.3	3.1	3	2.3	3.1			
			7	0.9	1.3									

Table B10

...f Linear Occupancy and Frequency of Occurrence of Linear Terrain Factor Classes

...ifferential ...k Height or ...cle Magnitude Percent Area	...cle Magnitude Percent Occurrence	Right Approach Angle Class No.	Right Approach Angle Percent Area	Right Approach Angle Percent Occurrence	Low Bank Height or Vertical Magnitude Class No.	Low Bank Height or Vertical Magnitude Percent Area	Low Bank Height or Vertical Magnitude Percent Occurrence	Base Width or Top Width Class No.	Base Width or Top Width Percent Area	Base Width or Top Width Percent Occurrence	Water Depth Class No.	Water Depth Percent Area	Water Depth Percent Occurrence	Water Velocity Class No.	Water Velocity Percent Area	Water Velocity Percent Occurrence
		West Germany Transect (WGT)														
64.8	64.9	3	18.6	16.8	1	45.6	47.[illegible]	3	34.6	37.2	1	80.3	87.0	1	80.3	87.0
11.8	12.0	7	14.0	15.0	2	33.2	33.1	4	32.0	33.4	3	11.5	7.9	3	15.2	9.6
8.0	7.6	1	10.4	12.2	3	11.4	10.8	5	26.1	29.9	4	5.6	3.0	4	4.2	3.2
6.6	6.4	11	9.2	9.4	4	7.6	6.4	6	4.2	3.6	5	2.3	1.9	2	0.3	0.2
6.2	6.0	9	7.7	10.8	7	1.1	1.1	21	1.8	1.7	2	0.3	0.2			
0.7	0.9	5	7.6	8.3	6	1.0	0.7	9	0.6	0.5						
0.6	0.5	12	6.3	4.5	8	0.[illegible]	0.1	8	0.5	0.6						
0.6	0.7	13	5.[illegible]	6.0	5	0.1	0.2	13	0.1	0.1						
0.6	0.9	10	4.6	2.8												
		8	3.1	2.8												
		14	2.7	2.2												
		16	2.5	2.4												
		15	2.3	2.7												
		20	1.8	1.1												
		18	1.6	1.2												
		21	0.8	0.7												
		17	0.8	0.7												
		19	0.6	0.3												
		6	0.1	0.2												
		Fort Knox (FK1)														
47.3	29.4	12	27.0	15.7	1	43.4	45.1	3	43.4	78.4	1	38.6	17.6	1	38.6	17.6
29.7	49.0	8	24.7	39.2	2	18.1	19.6	5	34.3	15.7	3	36.9	62.7	3	36.9	62.7
10.8	2.0	6	19.1	7.8	8	18.0	3.9	6	21.8	5.9	6	18.0	3.9	4	18.0	3.9
6.5	17.6	10	18.2	33.3	3	10.7	13.7				2	6.5	15.7	2	6.5	15.7
5.6	2.0	14	11.0	3.9	4	9.8	17.6									
		Fort Knox (FK2)														
54.8	80.0	8	20.3	18.7	1	46.2	17.3	4	35.7	21.3	3	51.6	32.0	1	28.1	6.7
33.2	12.0	11	19.8	4.0	2	41.7	65.3	3	27.6	65.3	1	30.2	8.0	4	27.3	13.3
5.5	4.0	12	15.4	48.0	3	10.3	16.0	5	24.0	5.3	2	18.2	60.0	3	26.4	20.0
3.5	1.3	6	15.3	10.7	4	1.8	1.3	6	9.2	5.3				2	18.2	60.0
1.8	1.3	4	8.5	4.0				7	1.8	1.3						
1.2	1.3	10	6.9	6.7				9	1.8	1.3						
		14	5.5	5.3												
		9	4.8	1.3												
		7	3.6	1.3												

B

Table B11

Vehicle Characteristics

No.	Vehicle Characteristics Identification	Dimensions	M114A1E1	M151A2
1	Vehicle type (KVEH = 0 for tracked and 1 for wheeled)	--	0	1
2	Gross vehicle weight	kips	15.7	3.2
3	Track type (NFL = 0 for nonflexible and 1 for flexible)	in.	1	NA
4	Grouser height for tracks; number of tires for wheeled tire ply rating	--	1	4
5	Tire ply rating	--	NA	6
6	Gross rated horsepower	bhp	160	71
7	Number of people in vehicle on normal mission	--	NA	NA
8	Winch capacity (use 0 for no winch)	kips	NA	NA
9	Number of tracks or tires	--	2	4
10	Number of axles	--	NA	2
11	Vehicle width	in.	91.8	64
12	Vehicle length	in.	195.8	165
13	Track width or nominal tire width	in.	16.5	7
14	Wheel rim diameter	in.	NA	23
15	Recommended tire pressure (highway)	psi	NA	20
16	Recommended tire pressure (cross-country)	psi	NA	4
17	Area of one track shoe (tracked) or number of wheels (wheeled)	$in.^2$	66	4
18	Number of bogies (tracked) or chain indicator wheeled (0 = no chains, 1 = chains)	--	8	0
19	Maximum vertical step the vehicle can climb	in.	NA	NA
20	Vehicle ground clearance at the center of greatest wheel span	in.	NA	12
21	Minimum vehicle ground clearance	in.	14.25	9
22	Rear end clearance (vertical clearance of vheicle trailing edge)	in.	23.5	18
23	Vehicle departure angle	deg	36	37
24	Vertical clearance of vehicle's leading edge	in.	40.5	18
25	Vehicle approach angle	deg	68	66
26	Length of track on ground or wheel diameter	in.	95	30
27	Height of vehicle pushbar	in.	40.5	18
28	Distance between first and last wheel center lines	in.	NA	85
29	Horizontal distance from the center of gravity to the front wheel center lines	in.	NA	45
30	Vertical distance from the center of gravity to the road wheel center lines	in.	NA	10
31	Maximum span between adjacent wheel center lines	in.	NA	85
32	Angle between a line parallel to the ground surface and the line connecting the center of gravity and the center of the rear wheel (road wheel or idler). The wheel is the one used to determine departure angle.	deg	14	NA
33	Distance from the center of gravity to the center of the rear wheel (road wheel or idler). The wheel is the one used to determine departure angle.	in.	69	NA
34	Vertical distance from the ground to the center of the rear wheel	in.	19	14

(Continued)

1 of 2 sheets

Table B11 (Concluded)

No.	Vehicle Characteristics Identification	Dimensions	M114A1E1	M151A2
35	Track thickness plus the radius of the rear wheel (road wheel or idler). The wheel is the one used to determine *aperture angle. (wheeled = NA)	in.	9	NA
36	Rolling radius of tire or sprocket pitch radius	in.	7.0	14
37	Height of rigid point used to determine approach angle	in.	40.5	18
38	Maximum braking force the vehicle develops	--	0.8	0.8
39	Loaded wheel radius	in.	NA	14
40	Total ground contact area	$in.^2$	3134	NA
41	Distance vehicle spans before significant motion begins	in.	45.5	15
42	Maximum force the pushbar can withstand	kips	31.3	3.2
43	Maximum axle load/gross vehicle weight	--	NA	0.5
44	Vehicle rated horsepower per ton	hp/ton	20.7	44
45	Transmission type (0 = automatic; 1 = manual)	--	0	1
46	Final drive gear ratio	--	4.17	4.86
47	Final drive gear efficiency	--	0.95	0.9
48	Number of gears in transmission	--	4	4
49	Gear ratios for transmission	--	NA	NA
50	Transmission efficiency	--	0.95	0.9
51	Gear ratio from engine to torque converter	--	NA	NA
52	Denotes presence of a torque converter lockup (No = 0; Yes = 1)	--	NA	NA
53	Input torque at which the torque converter curves were measured	--	NA	NA
54	Number of point pairs in array TME1 (see item 55)	--	NA	NA
55	Array containing torque converter input speed versus converter torque ratio curve	--	NA	NA
56	Number of point pairs in array TTM (see item 57)	--	NA	NA
57	Array containing torque converter torque multiplying coefficient versus converter speed ratio curve	--	NA	NA
58	Number of point pairs in array TTE (see item 59)	--	NA	NA
59	Array containing net engine torque versus engine speed curve	--	*	*
60	Number of point pairs in array VOOB (see item 61)	--	NA	NA
61	Array containing vehicle velocity versus obstacle height at 2.5-g vertical acceleration	--	**	**
62	Number of points in array VRIDE (see item 63)	--	8	6
63	Array containing ride dynamics versus speed curve	--	†	†
64	Vehicle swimming speed	mph	3.4	NA
65	Vehicle fording speed	mph	2.0	2
66	Auxiliary water propulsion factor (0.5 = No, 0.8 = Yes)	--	0.5	0.5
67	Ingress swamp angle of the vehicle	deg	17	NA
68	Fording depth or draft height	in.	53	21
69	Recommended tire pressure (sand)	psi	NA	15

*Measured tractive force-speed curve substituted for this relation. See Table B12.
**See Table B13.
†See Table B14.

2 of 2 Sheets

Table B12

Tractive Force-Speed Relations for Vehicle Characteristic 59 Table B11

M151A2		M114A1E1	
Tractive Force, lb	Speed mph	Tractive Force, lb	Speed mph
2195	0	9650	0
2185	4.9	9650	3
2050	7.5	9350	4
1815	10.0	8300	5
1205	10.1	6500	6
1180	12.0	5850	7
1085	15.5	5000	8
870	19.8	4050	10
660	19.9	3120	12
650	25.0	2600	16
615	30.0	2050	20
560	33.0	1700	24
420	33.1	1550	28
385	40.0	1300	32
355	45.0	1000	36
340	50.0		
310	56.0		
275	65.0		

NOTE: Data furnished by TACOM.

Table B13

Obstacle Height-Speed Relations for Vehicle Characteristic 61 in Table B11

M151A2		M114A1E1	
Obstacle Height in.	Speed mph	Obstacle Height in.	Speed mph
40.0	0.0	15.0	0.0
40.0	1.2	15.0	4.90
30.0	1.4	12.0	5.25
20.0	1.8	9.5	6.00
15.0	2.2	6.8	7.50
10.0	3.0	5.0	9.00
5.3	5.0	2.5	12.00
3.4	7.5	1.0	15.00
2.5	10.0	0.5	17.10
1.8	15.0	0.0	18.00
1.2	20.0	0.0	40.00
1.0	40.0		

Data from WES field tests.

Table B14

Ride-Speed Relations for Vehicle Characteristic No. 63 in Table B11

M151A2		M114A1E1	
RMS in.	Speed mph	RMS in.	Speed mph
0.20	60.0	0.20	30.1
0.57	60.0	0.77	30.0
0.75	45.0	1.00	23.5
1.00	34.0	1.25	20.5
1.50	22.0	1.50	18.5
2.00	16.0	2.00	16.6
2.50	12.5	2.75	15.5
3.00	11.0	8.00	7.5
5.75	2.0		
8.00	2.0		

Data from WES field tests.

Table B15

Performance Predictions for M114A1E1 in Fort Knox Study Area 2 (A2)

VEHICLE: M114A1E1 AREA 2 FORT KNOX

TERRAIN UNITS		% AREA IN UNIT	% AREA ACCUM	PREDICTED SPEED IN UNIT	PREDICTED SPEED ACCUM	Controlling Factors UP	Controlling Factors LEVEL	Controlling Factors DOWN
1	61	0.4	0.4	23.4	23.4	8	5	5
2	26	0.5	0.9	23.0	23.2	10	10	10
3	68	0.2	1.1	22.8	23.0	9	5	5
4	41	0.2	1.2	21.7	22.8	8	5	5
5	48	0.4	1.5	21.4	22.6	10	10	10
6	79	0.3	1.8	21.3	22.[illegible]	10	10	10
7	92	0.6	2.5	21.1	22.0	8	5	5
8	91	0.4	2.9	21.1	21.8	8	5	5
9	97	0.6	3.5	21.0	21.7	9	5	5
10	42	0.1	3.6	21.0	21.7	9	5	5
11	64	0.7	4.3	20.2	21.4	9	8	9
12	65	0.6	5.0	20.2	21.2	9	8	9
13	90	0.8	5.8	19.7	21.0	9	5	5
14	98	1.4	7.0	19.4	20.7	9	8	5
15	52	0.4	7.4	18.4	20.6	10	10	10
16	10	0.5	7.9	18.2	20.4	7	7	7
17	14	0.1	8.0	18.2	20.4	7	7	7
18	110	0.6	8.6	17.9	20.2	10	10	10
19	95	2.6	11.2	17.7	19.6	9	8	5
20	96	0.1	11.3	17.7	19.5	9	8	5
21	47	0.3	11.6	17.1	19.5	10	10	10
22	56	0.1	11.7	17.1	19.4	6	10	10
23	72	0.8	12.5	16.6	19.2	5	5	5
24	31	0.6	13.1	16.6	19.1	5	5	5
25	156	0.5	13.7	16.6	19.0	5	5	5
26	151	0.3	14.0	16.6	18.9	5	5	5
27	139	0.3	14.3	16.6	18.9	9	7	7
28	86	0.2	14.5	16.6	18.8	5	5	5
29	19	0.2	14.7	16.6	18.8	5	5	5
30	59	0.1	14.8	16.6	18.8	10	10	10
31	78	2.7	17.5	16.4	18.4	9	5	5
32	171	4.1	21.6	16.1	17.9	8	8	5
33	134	0.7	22.3	16.0	17.8	8	5	5
34	82	0.6	22.9	16.0	17.8	10	10	10
35	13	0.6	23.5	16.0	17.7	10	10	10
36	108	0.3	23.8	16.0	17.7	8	5	5
37	198	0.3	24.1	16.0	17.7	10	10	10
38	40	0.2	24.3	16.0	17.7	8	5	5
39	80	0.1	24.4	16.0	17.6	10	10	10
40	33	0.1	24.4	16.0	17.6	10	10	10
41	104	1.7	26.1	15.9	17.5	8	5	5
42	51	0.4	26.5	15.8	17.5	10	10	10
43	111	1.4	27.9	15.6	17.4	10	10	10
44	100	0.8	28.7	15.6	17.3	6	5	5
45	195	0.5	29.3	15.4	17.3	8	8	5
46	135	0.2	29.5	15.4	17.3	10	10	10
47	122	0.5	29.9	15.3	17.2	9	8	5
48	113	0.3	30.2	15.1	17.2	10	10	10
49	192	0.1	30.3	15.1	17.2	8	8	8
50	69	1.2	31.5	15.0	17.1	10	10	10
51	60	0.2	31.7	15.0	17.1	10	10	10
52	160	0.1	31.8	15.0	17.1	10	10	10
53	144	0.1	31.9	15.0	17.1	10	10	10
54	130	2.4	34.2	14.9	16.9	9	9	9
55	100	0.3	34.5	14.9	16.9	10	10	10
56	99	0.3	34.8	14.9	16.9	10	10	10
57	118	0.9	35.7	14.8	16.8	10	10	10
58	4	0.9	36.6	14.8	16.8	10	10	10
59	81	0.3	36.9	14.8	16.7	10	10	10
60	167	0.3	37.2	14.8	16.7	8	8	8
61	159	0.2	37.5	14.8	16.7	10	10	10
62	32	0.1	37.6	14.8	16.7	10	10	10
63	34	1.3	38.9	14.7	16.6	10	10	10
64	17	0.8	39.7	14.7	16.6	10	10	10
65	35	0.8	40.5	14.7	16.5	10	10	10
66	145	0.5	41.0	14.7	16.5	10	10	10
67	178	0.3	41.4	14.7	16.5	8	9	9
68	36	0.2	41.6	14.7	16.5	10	10	10
69	101	0.1	41.7	14.7	16.5	10	10	10
70	112	0.1	41.7	14.7	16.5	10	10	10
71	21	0.4	42.1	14.5	16.5	10	10	10
72	15	0.1	42.2	14.5	16.5	10	10	10
73	9	0.1	42.3	14.5	16.4	10	10	10
74	58	0.4	42.7	13.8	16.4	10	10	10
75	157	1.5	44.2	13.7	16.3	9	10	10
76	16	0.5	44.7	13.7	16.3	10	10	10
77	22	0.5	45.2	13.7	16.2	10	10	10
78	66	0.5	45.7	13.7	16.2	10	10	10
79	177	0.4	46.1	13.7	16.2	8	8	9
80	6	0.4	46.5	13.7	16.2	10	10	10
81	56	0.2	46.7	13.7	16.1	10	9	9
82	67	0.2	46.9	13.7	16.1	10	10	10
83	131	1.0	47.9	13.6	16.1	10	10	10
84	62	0.1	48.0	13.6	16.1	8	8	8
85	126	0.4	48.4	13.5	16.0	10	9	9
86	83	2.5	50.8	13.3	15.9	10	10	10
87	137	0.2	51.0	13.3	15.9	10	10	10
88	114	0.1	51.1	13.3	15.9	10	10	10
89	181	0.9	52.0	13.2	15.8	8	8	8
90	120	0.4	52.5	13.2	15.8	10	10	10
91	162	0.0	52.5	13.2	15.8	10	10	10
92	127	0.2	52.7	13.1	15.8	9	9	9
93	148	0.1	52.8	13.1	15.8	8	9	9
94	123	0.1	52.8	12.9	15.8	10	10	10
95	148	0.1	52.9	12.9	15.8	10	10	10
96	109	0.5	53.4	12.7	15.7	10	10	10
97	163	0.1	53.5	12.7	15.7	10	10	10
98	172	0.8	54.3	12.7	15.7	8	9	9
99	84	0.4	54.7	12.5	15.6	10	10	10
100	93	0.2	54.9	12.2	15.6	8	8	8

(Continued)

(1 of 2 sheets)

Table B15 (Concluded)

VEHICLE: M114A1E1 AREA 2 FORT KNOX

TERRAIN UNITS		% AREA IN UNIT	% AREA ACCUM	PREDICTED SPEED IN UNIT	PREDICTED SPEED ACCUM	Controlling Factors UP	Controlling Factors LEVEL	Controlling Factors DOWN
101	170	0.1	54.9	12.2	15.6	10	10	10
102	190	0.3	55.2	12.1	15.6	10	10	10
103	47	0.2	55.4	12.0	15.6	10	10	10
104	29	0.1	55.5	12.0	15.6	10	10	10
105	192	0.5	56.0	11.9	15.5	10	10	10
106	186	0.1	56.1	11.8	15.5	9	10	5
107	160	0.6	56.8	11.7	15.5	8	8	8
108	87	0.3	57.1	11.7	15.4	8	8	8
109	37	0.3	57.3	11.7	15.4	8	8	8
110	115	0.2	57.5	11.7	15.4	8	8	8
111	150	0.2	57.7	11.6	15.4	10	10	10
112	8	0.3	58.0	11.2	15.3	10	10	10
113	29	0.2	58.2	11.2	15.3	10	10	10
114	12	0.2	58.4	11.2	15.3	10	10	10
115	117	0.5	58.9	10.9	15.2	10	10	10
116	80	0.2	59.1	10.9	15.2	10	10	10
117	30	0.3	59.4	10.7	15.2	10	10	10
118	119	1.8	61.2	10.5	15.0	10	10	10
119	88	0.2	61.3	10.5	15.0	10	10	10
120	116	0.1	61.4	10.5	15.0	10	10	10
121	130	0.2	61.5	10.4	15.0	9	9	9
122	120	0.9	62.4	10.0	14.9	8	8	8
123	179	1.3	63.7	9.5	14.7	10	10	10
124	180	0.2	63.9	9.5	14.7	10	10	10
125	140	0.4	64.2	9.3	14.6	8	8	8
126	140	0.8	65.0	9.2	14.5	10	10	10
127	148	0.5	65.6	7.9	14.4	8	10	10
128	154	0.1	65.7	7.7	14.4	10	10	10
129	78	0.1	65.8	7.7	14.4	10	10	10
130	175	0.1	65.9	7.0	14.4	10	10	10
131	184	0.7	66.6	6.3	14.2	10	10	10
132	77	0.4	67.0	5.6	14.0	7	7	7
133	125	0.2	67.2	5.5	14.0	7	7	7
134	57	0.1	67.3	5.5	13.9	7	7	7
135	148	0.2	67.5	5.3	13.9	8	8	8
136	187	0.2	67.7	4.9	13.8	10	10	10
137	30	1.1	68.8	4.8	13.3	10	10	10
138	53	0.6	69.4	4.1	13.0	10	10	10
139	39	0.5	69.9	4.0	12.8	10	10	10
140	120	0.5	70.4	4.0	12.6	10	10	10
141	160	0.3	70.7	4.0	12.5	10	10	10
142	96	0.3	71.0	4.0	12.4	10	10	10
143	90	0.1	71.1	4.0	12.3	10	10	10
144	130	0.1	71.2	4.0	12.3	10	10	10
145	58	1.1	72.3	3.9	11.9	10	10	10
146	121	0.8	73.1	3.9	11.7	10	10	10
147	186	0.6	73.8	3.9	11.5	10	10	10
148	40	0.3	74.0	3.9	12.4	10	10	10
149	60	0.1	74.1	3.9	12.4	10	10	10
150	108	0.7	74.8	3.8	11.2	10	10	10
151	169	0.3	75.1	3.8	11.1	10	10	10
152	20	0.7	75.8	3.1	10.8	10	10	10
153	79	0.2	75.9	3.1	10.8	10	10	10
154	101	0.1	76.1	3.1	10.7	10	10	10
155	132	0.5	76.6	3.0	10.5	10	10	10
156	174	0.4	77.0	3.0	10.4	10	10	10
157	182	0.4	77.3	3.0	10.3	10	10	10
158	87	0.3	77.7	3.0	10.2	10	10	10
159	20	0.2	77.9	3.0	10.1	10	10	10
160	193	0.1	78.0	3.0	10.1	10	10	10
161	71	0.1	78.1	3.0	10.0	10	10	10
162	173	0.1	78.2	3.0	10.0	10	10	10
163	40	0.8	79.0	2.2	9.7	10	10	10
164	7	0.1	79.1	2.2	9.6	10	10	10
165	24	0.1	79.2	2.2	9.6	10	10	10
166	11	0.1	79.3	2.2	9.6	10	10	10
167	44	0.2	79.4	1.6	9.5	10	10	10
168	9	3.5	82.9	0.1*	1.9	3	3	3
169	193	3.1	86.0	0.1	1.2	4	4	4
170	75	1.7	87.7	0.1	1.0	3	3	3
171	133	1.4	89.0	0.1	0.8	3	3	3
172	109	1.4	90.7	0.1	0.7	3	3	3
173	188	1.4	92.1	0.1	0.7	4	4	4
174	170	1.0	93.1	0.1	0.6	3	3	3
175	184	0.9	94.1	0.1	0.6	3	3	3
176	179	0.7	94.8	0.1	0.6	4	4	4
177	104	0.7	95.5	0.1	0.6	4	4	4
178	3	0.7	96.1	0.1	0.5	3	3	3
179	102	0.6	96.8	0.1	0.5	4	4	4
180	191	0.5	97.3	0.1	0.5	4	4	4
181	74	0.5	97.7	0.1	0.5	3	3	3
182	70	0.4	98.1	0.1	0.5	4	4	4
183	18	0.3	98.3	0.1	0.5	3	3	3
184	187	0.3	98.7	0.1	0.5	4	4	4
185	2	0.2	99.0	0.1	0.5	4	4	4
186	180	0.2	99.2	0.1	0.5	3	3	3
187	142	0.2	99.4	0.1	0.5	3	3	3
188	124	0.1	99.6	0.1	0.5	3	3	3
189	1	0.1	99.7	0.1	0.5	3	3	3
190	42	0.1	99.8	0.1	0.5	3	3	3
191	23	0.1	99.9	0.1	0.5	3	3	3
192	147	0.1	100.0	0.1	0.5	3	3	3
193	89	0.0	100.0	0.1	0.5	4	4	4

* For convenience, 0.1 mph was arbitrarily assigned for "no go" condition.

(2 of 2 sheets)

Table B16

Summary of Terrain Unit Frequency - Speed Data for the M114A1E1 in Areal Terrain

West German Traverse (WGT)		Fort Knox (FK1)		Fort Knox (FK2)	
Terrain Unit Frequency %	Speed mph	Terrain Unit Frequency %	Speed mph	Terrain Unit Frequency %	Speed mph
0.1	23.5	0.5	30.1	0.5	23.4
7.2	23.5	9.9	21.1	9.8	17.7
10.0	22.2	20.3	17.7	20.2	16.0
20.0	20.4	30.2	16.6	30.0	14.8
30.0	17.2	40.0	15.7	40.4	13.7
40.0	15.4	50.4	14.2	50.8	12.5
50.0	13.6	60.3	12.3	60.1	10.9
60.0	12.1	70.2	11.2	70.4	4.9
70.0	10.8	80.0	10.3	80.3	3.0
80.0	8.9	90.0	8.8		
90.0	6.4				
96.3	0.8	99.3	4.5	87.0	0.1
96.3	0.1	100.0	0.1	100.0	0.1

Table B17

Summary of Diagnostics for M114A1E1 in Areal Terrain

Controlling Factor No.	Percent of Total Area 0-20	0-40	0-60	0-80	0-100
West Germany Transect (WGT)					
1	0.0	0.0	0.0	0.0	0.0
2	0.0	0.0	0.0	0.0	0.1
3	0.0	0.0	0.0	0.0	0.2
4	0.0	0.0	0.0	0.0	0.4
5	14.7	27.4	32.0	34.0	34.0
6	0.0	3.1	5.0	5.9	5.9
7	0.0	0.2	0.3	0.8	0.9
8	0.7	0.7	8.3	15.9	18.2
9	4.5	8.5	13.9	18.0	19.4
10	0.1	0.2	0.4	5.3	21.0
Fort Knox (FK1)					
1	0.0	0.0	0.0	0.0	0.0
2	0.0	0.0	0.0	0.0	0.0
3	0.0	0.0	0.0	0.0	0.0
4	0.0	0.0	0.0	0.0	0.8
5	5.3	11.6	12.5	13.9	14.0
6	5.0	5.4	5.4	8.9	11.0
7	1.0	1.4	2.7	3.2	5.7
8	1.1	4.0	13.8	15.9	24.0
9	7.2	11.7	15.5	25.2	28.9
10	0.4	6.0	10.1	12.9	15.6
Fort Knox (FK2)					
1	0.0	0.0	0.0	0.0	0.0
2	0.0	0.0	0.0	0.0	0.0
3	0.0	0.0	0.0	0.6	12.6
4	0.0	0.0	0.0	0.0	7.9
5	7.9	12.9	14.0	14.0	14.0
6	0.6	0.9	1.0	1.0	1.0
7	0.8	0.8	0.8	1.5	1.5
8	4.3	6.4	9.7	11.3	11.3
9	3.8	[illegible]	6.4	6.6	6.6
10	2.6	[illegible]	28.1	44.9	44.9

Table B18

Summary of Diagnostics for M151A2 in Areal Terrain

Controlling Factor No.	Percent of Total Area 0-20	0-40	0-60	0-80	0-100
	West German Transect (WGT)				
1	0.0	0.0	0.0	0.0	0.0
2	0.0	0.0	0.0	0.0	0.2
3	0.0	0.0	0.0	0.0	0.4
4	0.0	0.0	0.0	0.0	1.2
5	13.3	14.6	14.6	14.6	14.6
6	2.0	2.0	2.0	2.0	2.0
7	0.7	1.1	1.2	1.2	1.2
8	0.2	17.1	25.4	25.4	25.4
9	3.5	3.9	4.2	4.2	4.8
10	0.3	1.3	12.6	32.6	50.2
	Fort Knox (FK1)				
1	0.0	0.0	0.0	0.0	2.1
2	0.0	0.0	0.0	0.0	0.0
3	0.0	0.0	0.0	0.0	0.0
4	0.0	0.0	0.0	0.0	0.0
5	1.0	5.1	5.2	5.4	6.9
6	4.7	4.8	6.4	8.6	8.7
7	5.7	8.0	8.0	8.5	10.4
8	6.5	9.5	12.9	18.3	22.8
9	1.3	3.4	3.5	5.7	12.0
10	0.7	9.3	24.0	33.5	37.0
	Fort Knox (FK2)				
1	0.0	0.0	0.0	0.0	0.0
2	0.0	0.0	0.0	0.0	0.0
3	0.0	0.0	0.0	4.8	20.0
4	0.0	0.0	0.0	3.1	7.7
5	3.2	9.8	9.8	9.8	9.8
6	0.4	0.4	0.4	0.4	0.4
7	1.8	1.8	1.8	1.8	1.8
8	9.6	15.2	20.4	24.1	24.1
9	1.5	1.5	1.5	1.7	1.7
10	3.5	11.4	26.2	34.4	34.4

Table B19

Summary of Vehicle Performance in Linear Terrain Units

Vehicle	Type of Linear Features									
	Wet Concave*		Dry Concave**		Convex†		Dry Concave and Convex		All Linear Features	
	Length mile	Percent Go	Length mile	Percent Go	Length mile	Percent Go	Length mile	Percent Go	Length mile	Percent Go
West Germany Transect (WGT)										
M151A2	85.18	15	17.78	24	318.61	68	336.39	66	421.57	56
M114A1E1	85.18	41	17.78	48	318.61	79	336.39	77	421.57	70
Fort Knox (FK1)										
M151A2	16.41	31	13.48	62	0.0	NA	13.48	62	29.89	45
M114A1E1	16.41	60	13.48	77	0.0	NA	13.48	77	29.89	68
Fort Knox (FK2)										
M151A2	13.24	69	5.20	22	7.22	100	12.42	68	25.66	68
M114A1E1	13.24	77	5.20	58	7.22	100	12.42	82	25.66	80

* Wet concave - negative features such as rivers, streams, and ditches which contain water.

** Dry concave - negative features which contain no water.

† Convex - Positive features such as road embankments and levees.

Table B20

Summary of Vehicle Performance Diagnostics in Linear Terrains

Vehicle	Water Depth Greater Than Fording Depth: Length Mile	Water Depth Greater Than Fording Depth: Percent No Go	Water Velocity Greater than Maximum Allowable: Length Mile	Water Velocity Greater than Maximum Allowable: Percent No Go	Bank Angle and Height Combination: Length Mile	Bank Angle and Height Combination: Percent No Go	Surface Strength Less than Minimum Required for One Pass: Length Mile	Surface Strength Less than Minimum Required for One Pass: Percent No Go	Traction Available Less than Surface and Slope Resistances: Length Mile	Traction Available Less than Surface and Slope Resistances: Percent No Go	Vehicle Geometry - Linear Feature Geometry Interference: Length Mile	Vehicle Geometry - Linear Feature Geometry Interference: Percent No Go	Total for All Reasons: Mile
West Germany Transect (WGT)													
M151A2	20.40	11	0.0	0	16.69	9	0	0	131.67	71	16.69	9	185.45
M114A1E1	0.0	0	15.26	12	20.35	16	0	0	91.57	72	0.0	0	127.18
Fort Knox (FK1)													
M151A2	5.38	32	0.00	0	2.58	16	0	0	8.61	62	0.0	0	16.58
M114A1E1	0.0	0	5.38	56	2.58	27	0	0	1.67	17	0.0	0	9.63
Fort Knox (FK2)													
M151A1	0.0	0	0.0	0	0.77	9	0	0	7.44	91	0.0	0	8.21
M114A1E1	0.0	0	0.0	0	0.77	15	0	0	4.45	85	0.0	0	5.22